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RICHMOND, VA., MARCH, 1928

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Fifty-ninth Annual Meeting in Danville, October 16-18, 1928

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A PRELIMINARY REPORT UPON THE MIDWIFE SITUATION IN VIRGINIA.*

By GREER BAUGHMAN, M. D., F. A. C. S., Richmond, Va.
Professor of Obstetrics, Medical College of Virginia.

The material upon which this paper is based was obtained from a study of the midwife problem in Virginia in conjunction with Drs. H. D. Howe, of Hampton; J. Bolling Jones, of Petersburg; William R. Martin, of Charlotte Court House; H. G. Middlekauff, of Weyers Cave; L. A. Calkins, of the University of Virginia, and Mary E. Brydon, of Richmond, who were appointed by our President, Dr. J. Shelton Horsley, to study the problem and report to the Medical Society of Virginia.

I wish to thank these zealous colleagues for their interest in the work and to assure the society that the conclusions that have been presented to them are the result of a considerable amount of work and represent the combined thought of the committee.

We found that the 2,431 doctors of the state reported 68.2 per cent of the 56,583 births, while the 4,840 registered midwives reported 31.8 per cent of the births in 1926. There were 1,555 midwives of the 4,840 who reported no births during the year, while 2,052 reported less than five apiece. These two groups may be looked upon as neighbors or friends who helped in an emergency or who were too old to engage in active midwife work. There remain 1,233 who might be considered to be in fairly active practice. Of these there were twenty who delivered more than fifty and only three who delivered more than one hundred.

One of these was located in Lynchburg, one in Petersburg and one in Newport News.

We found that more than twice as many people live in rural Virginia, that is, in towns of less than one thousand inhabitants and the country, than in towns of one thousand and in the cities. With the doctors it is exactly opposite, 1,624 live in cities or towns of 1,000 or over, while only 807 live in towns less than 1,000 and in the country. In the cities and large towns there is one doctor to 469 people, while in the small towns and the country one doctor should have 2,079 clients.

Studied from another angle, we found that the area of the cities and towns of over one thousand was 464 square miles, while the rest of the state contains 1,736 square miles.

With the above facts before us, it seemed folly to advocate the extermination of the midwives. The women of the cities would suffer but little, because there are enough doctors in the cities to cope with the situation; besides, the dispensaries, medical students and hospitals take care of many charity cases. In fact, in the cities, except in a few instances, because of local conditions, the midwife is not a factor to be considered. In the country, on the other hand, with few doctors, great distances to travel, and a tremendous obstetrical service, much of which would be absolute charity, the doctors would work themselves to death and die broke.

We believe that midwives are necessary at the present time.

The State Board of Health has done a splendid piece of work by reducing the number of midwives in the State from nine thousand very ignorant and dirty creatures, to four thousand eight hundred and forty, only one thousand two hundred and thirty-three of whom are really active. Most of these women have the rudiments of cleanliness, if nothing else. Some few of these women are really competent.

The preference of women to act in the capacity of accouchers has a long and honorable history. It is only in recent years that men have attempted to preempt this field of practice. When I studied obstetrics, a very elaborate technic was described, by which one could catheterize a woman during delivery under a sheet without exposing her. We were also instructed in methods of examining the women and delivering while the vulva was draped.

*Read at the fifty-eighth annual meeting of the Medical Society of Virginia, in Petersburg, October 18-20, 1927.

On the continent of Europe today, normal deliveries are done by well-trained midwives, while the doctor is called in only for a serious emergency.

This problem is an economic one as well. The doctor has not the time to sit on a normal primipara for twenty-four hours to the neglect of his other patients without adequate remuneration. The midwife, who frequently is a neighbor, is willing to spend her time for the prominence that it gives to her in the community, for the friendliness that she has for the neighbor, as well as for a chance to recount or to hear the latest gossip, and will consider herself well paid if she receives only her meals.

The solution of the midwife problem is along the lines that the State Board of Health has already started—to try to educate the public as to prenatal care by means of courses of instruction.

We wish to go a step further and urge the establishment of dispensaries at strategic points over the State in general, or private hospitals, where one of the local doctors can meet the pregnant women who have been drummed up by the county health nurse, examine them, their urine, and give them instructions as to the way to live during their pregnancy. A woman with good prenatal care is more than half delivered.

The toxemias of pregnancy associated with convulsions will account for about half of obstetrical deaths. The cases that attend our dispensary do not have convulsions, because we take their albumen and raised blood pressure seriously, treat them, and deliver prematurely if necessary. Prenatal care will do more than reduce the obstetrical mortality; it will gradually do away with the midwives by teaching the people that the doctor can relieve them from death and discomfort.

The feeder for such a dispensary is a high-grade county nurse, who will be careful to solicit only those women who have no doctor.

The pathological cases will, before long, come to the hospital or be treated by local doctors. It will be but a short time before the normal cases will be seeking hospitalization, or will demand medical delivery.

The full pay cases can take care of themselves; the half-pay and the indigent cases are the problems.

If a definite problem and a method of solution is presented to a community, the money for carrying out the plan will soon be procured.

Churches are erected in the poorest of communities to save souls. Hospitals will be erected and maintained to save their bodies and to make the future citizens healthy.

26 *North Laurel Street.*

DISCUSSION.

DR. MARY E. BRYDON, *State Board of Health, Richmond:*—(F'rst part of this discussion omitted, as the reporter was absent from the room). This committee has opened our eyes to one thing that the nurse can do. I have talked it over with the nurses and find them delighted at the prospect. The plan is that, in-so-far as she is able, in the small towns and rural distr'cts as soon as the information is sent her, the nurse is to actually take the pregnant woman to her chosen family physic'an. The question that will come up to you as practicing physic'ans in the State is in regard to the indigent cases. I mean, if the nurse brings to you a patient and tells you she is an indigent case, if you find she is a normal case, will you be willing to give that woman prenatal instruction even if she has arranged to be delivered by a midwife? I hope that you will be willing to do so, and I hope that you will permit the midwife also to come to your office, because one of the recommendations of this committee is that every midwife be under the supervision of physicians. That is our aim, and I hope that with your help it may be eventually carried out.

DR. BAUGHMAN, closing the discussion: I should like to have some of you men say whether we are on the right track or not. We have done a lot of work on this report, and we have some country men on the committee, but we do not want to keep going in the direction, as indicated by the report, if we are on the wrong track. I should like to have you say something adverse to this if you feel that way. If we are right, say so, and give us your co-operation.

(DR. HORSLEY, President, asked for an expression of approval. Several ayes; no noes.)

THE TREATMENT OF DIABETES IN YOUNG CHILDREN.*

By CLAIBORNE WILLCOX, M. D., Norfolk, Va.

It is my purpose in this paper to present to you the treatment of diabetes in young children. I chose this subject not because I had anything new to offer on diabetes, but because, in the last four years, I have had four cases in children under two years of age and from them have learned that, while the general problem is the same, in children of this age there are difficulties not encountered in adults and older children. These special features I will endeavor to emphasize.

*Read at the fifty-eighth annual meeting of the Medical Society of Virginia, in Petersburg, October 18-20, 1927.

In the preinsulin days it was practically an established fact that a young child with diabetes was doomed to early death, an average life of little more than two years, from date of onset, under the most favorable circumstances and what of life it had was in a most unhappy condition of under nutrition and invalidism. Insulin, as you know, has brought about a complete change, lengthening their expectancy, enabling them to live comfortably, to carry on normal activity and growth, all with the possibility of great improvement and, in the light of experimental work, indicating regeneration of the pancreas, even with hope of ultimate cure. In contrast to adults, at least 90 per cent of children require insulin and probably of the very young 100 per cent do.

Joslin gives us a good idea of the results of treatment of diabetic children in the past and present in a paper published in the *Journal of the American Medical Association* in January, 1927. He reports 395 children with onset of diabetes before 15 years of age and divides them into three periods as follows: 1898 to 1914, 60 cases of which only one is still living; 1914 to 1922, 169 cases of which there are 52 living; 1922-1926, 165 cases of which 147 are still living. Those who have died in the insulin period have outlived those in the other two periods. In the same article he says that the child diabetic is deserving of unusual consideration and care because it is the pure diabetic, the uncomplicated case, from which we may expect to learn much as to prognosis, possible cure, diabetic cause of death, etc., and suggests that a child under one year of age developing diabetes is worthy of a medical endowment.

The indications for the treatment of diabetes in children are the same as in adults, only more urgent because the disease is more acute. Diet which will take care of the patient's needs for activity and growth plus enough insulin to make the extra food available and keep the patient aglycosuric with normal blood sugar to permit pancreatic rest, and possible regeneration of the islands of Langerhans, is the essential part of the treatment; to which must be added general hygiene protection against coma, hypoglycemia, infections of all kinds and gastro-intestinal upsets.

Diet. In working out a diabetic diet we must have several factors in mind, viz.: protein requirements, total caloric requirements, and relation between ketogenic and anti-ketogenic substances. The diet should be calculated on the expected weight for age rather than the actual weight which is usually subnormal. Adults require two-thirds of a gram of protein per kilo of body weight but children, because of the factor of growth, require more and, while there is not universal accord on the subject, it is probably best to allow from one and one-half to three grams per kilo. One of my cases is doing well on two while another requires three. The necessary protein having been determined the balance of the diet is distributed between the fat and carbohydrates in a proportion not greater than 1.5 to 1. Some have and do use higher fats, but young children being particularly liable to acidosis and gastro-intestinal upsets it has seemed wise not to go beyond the above ratio. In working out our proportions it is necessary to remember that 58 per cent of the protein and 10 per cent of the fat must be reckoned as glucose and 46 per cent of the protein as fat.

To begin with, the patient is put on a maintenance diet, often well supplied by milk and orange juice, for a few days without insulin. The 24-hour specimens of urine are examined and the amount of insulin determined by the amount of glucose excreted—one unit of insulin to each two grams of glucose in the ordinary case. From this the diet is gradually increased to the final one as determined by the patient's caloric needs, enough insulin being given to take care of the added food. The time of feeding is important. Young children usually need more than three feedings daily. It is desirable too to distribute the food in such a manner that the bulk of the carbohydrates will be taken at meals preceded by insulin. Individuals require special arrangements as shown by one of my patients who persisted in having a mild insulin reaction at four P. M., eight hours after her morning dose of insulin with two meals intervening. The addition of orange juice given at three P. M. prevented this occurrence from continuing.

The young child is normally on a somewhat restricted diet, the diabetic no less so and this, together with the tendency of these little patients to tire of this or that food, often taxes one's ingenuity in selecting a diet.

Insulin. So far as is known at present insulin is not a cure for diabetes though invaluable in conjunction with proper dietetic

measures, but its use, because of certain dangers, necessitates even more careful dieting than without it.

Invaluable as insulin is in diabetes in general, it is even more so in children because, while a large percentage of adults can get along on diet alone, nearly all children require insulin too and with it can live, grow and follow their normal activities. I think too it is fair to say that diabetic children properly treated, in appearance at least, equal or even surpass normal ones. And while it is yet too early to make positive statements, insulin certainly offers these unfortunate children some hope of cure.

The question of dosage is an individual one and must be worked out in each case. In general one unit of insulin will burn from one to two grams of glucose. Determination of the amount of sugar in the 24-hour specimen gives the clue to the proper dosage. It should be given with care and it is well to start with less than the estimated needs, gradually increasing the dose, being guided by urinalysis and blood sugar determinations. The time of administration is important. If 10 units or less is the daily requirement it can usually be given in a single dose 15 minutes before breakfast. From 10 to 30 units in two doses at 12-hour intervals, before breakfast and supper. More than this is probably best given in three doses.

Hypoglycemia (insulin shock): When enough insulin is given to reduce the blood sugar below normal, a characteristic train of symptoms follow—hunger, restlessness, sweating, strabismus, tachycardia and finally, convulsions and collapse. Fortunately, we have a specific treatment for the condition, viz.: the administration of sugar as such or in substances in which it is readily available. Administration of glucose by mouth is usually all that is necessary, but in severe cases it often has to be given by rectum, intraperitoneally or intravenously. In most instances, response to treatment is prompt as indicated by the disappearance of symptoms, but not always as in the case of one of my patients who went into insulin shock three and one-half hours after her usual breakfast and insulin. She required six ounces of orange juice, two teaspoonfuls of cane sugar, several cakes and nearly an hour to be relieved. Sometimes the question arises—are certain symptoms due to hypoglycemia? Where there is any doubt, it is wise to give orange juice immediately.

It is said that insulin shock occurs whenever the blood sugar becomes subnormal, but there is considerable variation in the blood sugar level at which it does occur and I have seen many times blood sugars below normal without symptoms.

Coma. Many diabetic children are in or have impending coma when first seen and their tendency to acidosis makes it more frequent. When it occurs, the patient should be put to bed, warmth applied, an enema given, fluids forced, and urinalysis and blood sugar done. From 10 to 30 units of insulin are given, repeating at two hour intervals till blood sugar becomes normal. The patient is then put on a diet plus insulin as in an ordinary case of diabetes. Insulin is specific for coma and I know of nothing that so nearly resembles actually pulling your patient back from the grave. There is a great deal of variation in the amount of insulin required for these cases. One of mine developing every symptom of coma after two years of treatment required only a single dose of 15 units, while another in coma when first seen with blood sugar of 610 required 80 units.

One of the problems that insulin has given us is the optimum state of nutrition for a diabetic child. I am inclined to agree with those who believe that we should try to keep them normal in weight and height. Several well known workers have shown that under these conditions they do well, often gaining tolerance.

We must be watchful of our diabetic childrens' general health insuring them adequate rest, play and fresh air. We must care particularly for infected teeth and tonsils, guard them against infections of all kinds and gastro-intestinal upsets. One of my cases with badly infected tonsils was almost at a standstill. The tonsils were removed without anaesthesia either local or general with surprisingly little discomfort and almost no interruption of her diabetic regime. Since the operation this child has improved much more rapidly.

Success in the treatment of young children with diabetes is largely dependent upon education of the parents. They must be taught food values, to weigh and measure diets, to administer insulin, to do urinalysis, to recognize the symptoms of hypoglycemia and coma

and how to combat them. All of this requires time and much patience but it is absolutely necessary to teach these parents all we possibly can about the disease. It is advisable to get them a book on the subject. (Joslin's Manual for Diabetics is a useful one).

The ideal is to get your patient on a diet and insulin dosage on which it will live, grow and develop with a normal blood sugar, permitting pancreatic rest and possible regeneration of the islands of Langerhans. Practically, this ideal in young children is well nigh unattainable because of certain difficulties and a more narrow margin of safety. Normal children below two years are subject to certain dietetic restrictions which are certainly no less applicable to diabetics, making selection of diet more difficult. They are more liable to acidosis and gastro-intestinal upsets. They do not recognize symptoms of hypoglycemia, so much more care has to be exercised to guard against and correct them, which adult diabetics can do for themselves. If we are too zealous in keeping our patients sugar free we may go too far and, to be safe, it is almost necessary to allow a trace of sugar in urine once or twice daily.

Catheterization with its dangers is more often necessary in children. The value of blood sugar estimation is great, but any one who has repeatedly to withdraw 5 c.c. of blood from the vein of a child of 18 months will testify to the technical difficulties.

In conclusion, let me say that, while the ideal is not often attained in these cases, by aspiring to it we can carry them along (already children with diabetes in the insulin period have outlived their expectancy before it), comfortable, well nourished and happy to an age of greater co-operation, always with the hope that with improved methods and greater knowledge we will do better.

812-814 *Medical Arts Building.*

DISCUSSION

DR. M. S. FITCHETT, *Norfolk:* I think one very important and interesting point Dr. Willcox has brought out is that he has seen four cases of diabetes occurring under two years of age. I have given considerable effort to finding out the incidence or frequency of diabetes in children under two years of age, and I have been unable to arrive at any definite idea as to how frequent it might be. I believe that I have been unable to find reports in the literature that has been available to me during the past two or three years, of more than eight or ten cases; and I think that his experience of having seen four cases under two years of age is certainly very extraordinary. Dr. Joslin says that in his large series of diabetics about seven or eight per cent of them have been in children. It is impossible to tell from any statement he has made what percentage of those children have been under two years of age. He reports in his case reports only one or two cases under two years of age.

Speaking of this infantile diabetes, I think we might say that if the true cause of diabetes is ever discovered it will undoubtedly be discovered in the study of these early infantile cases, chiefly because of the fact that these cases are uncomplicated—uncomplicated by the degenerative diseases that are common in older people. The same thing, I think, can be expected in the true pathology that might be developed as a constant finding in diabetes, for the same reason. Dr. Warren, in Boston, has recently published a report on the pathology in ten cases of juvenile diabetes, and he states that he found actual pathology in only two cases—in one in the pancreas, which he describes as being lymphocytic infiltration; in the other case, three years of age, he says there was a definite fibrosis of the islands.

Speaking of these very young cases, the symptoms are virtually the same as in older people. The complications are said to be more frequent, possibly with the exception of gangrene. Possibly the most frequent complication of these cases is coma and skin complications. As to the treatment, I agree with the general principles of the treatment Dr. Willcox uses. I doubt if it is possible to attain in these cases of young children what is said to be the ideal to be strived for in any diabetic condition—that is, the maintenance of a normal blood sugar. I agree with Dr. Willcox that it is necessary in these cases, probably, to have a trace of sugar at least once a day.

I have had only one case, which I started treating about two and a half years ago at eighteen months of age. The child has grown and developed physically and mentally. I have had the complete cooperation of the child's mother, who has examined a specimen of every urine passed during the two and a half years and has a very accurate record of the findings.

DR. WILLCOX, closing the discussion: Theoretically, diabetics should be kept sugar free with a normal blood sugar, and yet the case Dr. Fitchett mentioned and the two I reported, in which we have allowed a trace of sugar in the urine, have continued to improve. They have grown, increased in weight and height, developed mentally and in every way, and seemed to continue to improve under those conditions.

END-RESULTS AFTER HARELIP OPERATIONS.*

By JOHN S. HORSLEY, JR., M. D., Richmond, Va.
Head of the Department of Plastic Surgery of St. Elizabeth's Hospital.

Harelip is a congenital malformation due to failure of proper closure of the embryonic clefts which enter into the formation of the lip. The fissures may occur on the right or left side of the midline, giving rise to the variety known as unilateral or single harelip.

*Read before the fifty-eighth annual meeting of the Medical Society of Virginia, at Petersburg, October 18-20, 1927.

Sometimes a fissure occurs on each side of the midline, and this constitutes a bilateral or double harelip. A very rare form may appear in the midline, causing a median harelip. Only seldom is there associated with harelip a deformity of the lower lip.

Single and double harelips may be complete or incomplete. A wide degree of variation of the deformity may occur. In my experience the most common types in order of frequency are: (1) complete unilateral, (2) complete bilateral, and (3) incomplete unilateral, in which there is a flared deformity of the nostril and abnormal tissue above the actual cleft (Figures 1, 3, 5, 7 and 9).

Fig. 1—Master L. D., age 8 years on admission. Right incomplete unilateral harelip with slight deformity of right nostril.

Fig. 2—Master L. D., nine months after operation for correction of harelip and deformed right nostril.

This paper will include primarily a discussion of single harelips. In complete single harelip the fissure extends into the nostril. The width and shape of the fissure varies considerably from a narrow margin to a wide triangular or quadrilateral defect. When the child cries or smiles the width of the fissure is increased. The margins are lined by mucous membrane, which is continuous with that of the under surface of the lip. Towards the nostril the mucous lining usually becomes narrower and tapers off to a point. Often the mucous membrane extends into the nostril. A narrow strip of skin at the upper end of the cleft is present on each side; the nostril itself is flared and flattened to an extent depending upon the width of the fissure in the lip. The outer margin of the nostril is usually stretched and thinner than normal. The lip may be closely or only loosely attached to the maxilla and of unequal thickness on the two sides of the fissure. The frenum is frequently large and presents a conspicuous fold. The degree of development of the lip is a very important factor both from the operative and cosmetic points of view.

Time for Operation

At birth the deviation from normal is quite marked, but not as marked as it will be later on if the harelip is allowed to remain open or is improperly closed. Therefore, the earlier and the more accurately the lip is repaired, the better the ultimate result will be. Early closure of the lip will improve the appearance of the face and assure proper facial development and contour. The most desirable time to correct the harelip is within the first few weeks after birth. If there is an associated cleft in the anterior alveolar process, this should be closed before the lip is sutured, unless the alveolar fissure is very narrow.

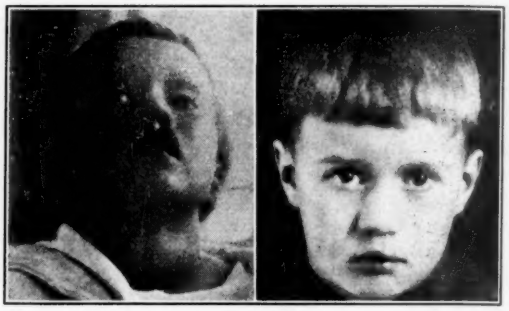

Fig. 3—Master A. S., age 4 years on admission. Left complete unilateral harelip with flattened and flared deformity of left nostril. This preliminary photograph appeared in an article "Harelip and Cleft Palate," by the author, "Virginia Medical Monthly," March, 1927.

Fig. 4—Master A. S., sixteen months after operation for correction of left harelip and deformed left nostril.

Before any attempt is made to correct this deformity, it is highly important to see that the nutrition of the patient is at its best. Rickets, secondary anemia, upper respiratory and middle ear infections are frequently causes for postponing such an operation. Babies who have been fed entirely or largely on condensed milk or preparations containing a high carbohydrate content and an improper protein and fat balance may look well, but careful examination will show flabby tissues, and operations upon such babies will usually give rather severe post-operative reactions and in a great many cases an unsatisfactory operative result. It is usually unwise to change markedly the customary feeding formula of a baby

immediately preceding or following such an operation, as a change may upset him.

Types of Operations

The operation which I perform for single harelip is a modification of the Rose method. Before the lip is repaired it is always important to have a good foundation for the lip to rest upon and not one that produces marked

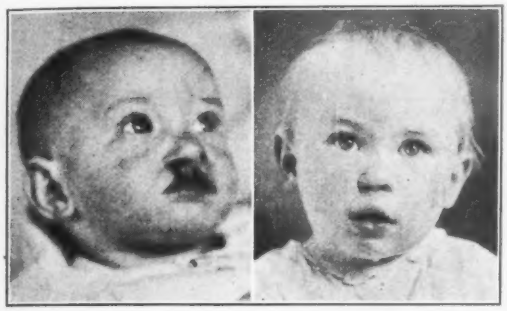

Fig. 5—Master L. M., age 7 months on admission. Right complete unilateral harelip and cleft palate with marked flattened and flared deformity of right nostril and protruding anterior alveolar process.

Fig. 6—Master L. M., thirteen months after operation for correction of cleft of anterior alveolar process, harelip and deformed right nostril.

irregularities and constant tension. If the alveolar process is cleft, and particularly if there is a marked protrusion of one of these processes, this deformity should be corrected

Fig. 7—Baby girl, N. G., four months old on admission. Left complete unilateral harelip and cleft palate with marked flattened and flared deformity of the left nostril and a protruding anterior alveolar process. This preliminary photograph appeared in an article "Harelip and Cleft Palate," by the author, "Virginia Medical Monthly," March, 1927.

Fig. 8—Baby girl, N. G., two years after first operation for correction of harelip. deformed nostril and cleft of anterior process. At the time of the operation on the cleft palate, a small secondary operation was performed on the left nostril.

first. Thorough mobilization of the surrounding tissues from within the mouth, keeping the dissection close to the maxilla, is very important in the repair of harelip in order to secure union without points of tension. The attachments of the deformed nostril, as well as the lip, must be dissected free from the maxillary bone. A successful operation for harelip requires: (1) that the muco-cutaneous border of the lip be accurately approximated; (2) that after suturing, the lip be free from tension; (3) that the mucosa of the lip at the point of suture be equally and slightly over-corrected; (4) that the accompanying deformity of the nostril be corrected. In many cases, in order to relieve tension on the line of suture, adhesive strips may be applied to the face in the so-called "butterfly" fashion and kept in place during the period of healing.

Secondary Operations

Frequently I encounter patients upon whom the result of an operation is not as good as it

Fig. 9—Baby girl, A. C., two years old on admission. Right complete unilateral harelip and cleft palate with flared and flattened deformity of right nostril and marked protrusion of the anterior alveolar process.

Fig. 10—Baby girl, A. C., eight months after repair of harelip, deformity of right nostril and cleft in anterior alveolar process.

might be. Often these cases are sent to me primarily for the closure of a cleft palate. The lip has usually been operated upon in infancy, months or years previously. Most of these patients are young adults, especially young women. Although satisfied during infancy and childhood with a poorly repaired harelip, when they are older and learn that their appearance can be improved greatly by a relatively small operation, they naturally are anxious to have this improvement made. Sometimes the results of my own primary operations have not entirely satisfied me. In such cases I perform small secondary operations in order to improve the appearance of the patient. In some cases of extreme deformity, especially in double harelip and where a markedly protruding alveolar process exists,

it is often impossible to obtain an entirely satisfactory result from the primary operation alone. These more severe deformities are customarily accompanied by a cleft palate, and when it is repaired the small secondary lip operation can be performed at the same time

Fig. 11—Miss M. G. on admission. Notched deformity, conspicuous lip scars and irregular redundancy of lip mucosa following attempt at repair of left incomplete unilateral harelip elsewhere during infancy.

Fig. 12—Miss M. G. six months after secondary operation for correction of deformity following unsuccessful repair of harelip elsewhere.

without an added risk or inconvenience to the patient.

In my experience, the most common conditions for which secondary operations have to be done are, in order of their frequency, (1) a notched lip, (2) a flared deformity of the nostril associated with the harelip, (3) a conspicuous irregular scar with an uneven mucocutaneous line, and (4) occasionally redundancy of the mucous membrane of the lip margin (Figure 11). The most difficult of these so-called "secondary deformities" to correct is the flattened and flared nostril.

Results

The end-results following harelip operations cannot be accurately ascertained under six months' time. The accompanying photographs will illustrate the results in several types of single harelip deformities. (Figures 2, 4, 6, 8, 10 and 12).

The following points are important to obtain good end-results after harelip operations:

1. The primary operation should be performed as early as possible, provided the general condition of the patient is good.

2. A carefully performed initial operation is necessary, the lip margins being accurately approximated without undue tension.

3. Painstaking attention should be paid to the post-operative course.

4. Two weeks after the patient is discharged from the hospital, massage of the operative area with cocoa butter for several minutes twice daily will soften up the scar and greatly improve the appearance and function of the area operated upon.

5. Routine check-up examinations of all patients from six to twelve months after operation should be made and, if indicated, secondary operations performed.

617 *West Grace Street.*

Discussion.

Dr. W. H. Goodwin, *University:* I have been very much interested in the plastic work of Dr. Horsley and results of his recent work have been excellent. I was much impressed with the good result obtained in the case with such a bad unilateral cleft and particularly with the secondary operation.

Plastic surgery is not an easy branch of the art. It requires training and skill and also much patience on the part of the surgeon as well as patience on the part of the parents of the babies with harelip and cleft palate. Dr. Horsley brought out clearly the errors of development in these cases and the various types of them, and emphasized particularly the unilateral harelip or cleft lip, as it is sometimes called. There is a great diversity of technique in the repair of these lips, but after all the most simple method is the best. The complicated flap operations are sometimes necessary but are liable to lead us into trouble. As physicians, we should urge operation at the earliest possible time, since function and cosmetic results are better attained. Since these babies with harelips, and particularly if complicated with a cleft palate, nurse very poorly, they are usually in a poor state of nutrition and the mother must be taught the necessity of feeding them with a medicine dropper or spoon. Usually the baby can be gotten in condition for operation better and quicker if they are placed in the care of a pediatrician, preferably in the hospital. When the child with harelip and cleft palate grows old enough for self-realization he becomes very sensitive about the looks and defective speech, and he is badly handicapped for making a suitable place for himself in the world.

As Dr. Horsley brought out, the most important part of the operation is the mobilization of tissue, particularly the alae nasi and the septum of the nose. The alae nasi must be separated from the cheek widely in order to get this corrected Then we must bear in mind the great importance of the sphincter-like muscle, the orbicularis, and must expose the muscle tissue. Otherwise we shall not have very good results. Tension is always to be avoided. Dr. Horsley's results as seen here on the screen are certainly very good as regards suture lines, it seems to me.

With a bilateral cleft lip, with outstanding premaxilla, the condition is even more unsightly and the technique of repair even more difficult. The steps are essentially the same for all flaps, but we have to contend there with this outstanding premaxilla. Often it is impossible to get it back into place. One who has seen a premaxilla removed knows what a terrible deformity it gives later on in the flat lip and flat nose. Often it is well to divide the vomer by triangular incision, pushing the

premaxilla back. Often I have found it wise to divide the alveolar border.

I was pleased to hear Dr. Horsley discuss the importance of a teat-like projection instead of a smooth vermilion border, which looks well immediately after completion of the operation but is so liable to result in a groove due to the inevitable cicatricial contraction.

DR. CLIFTON M. MILLER, *Richmond:* I should like to ask if Dr. Horsley has had any experience with the Brophy and Carnody operation. I have never seen anybody else do the operation and get the results they do with as low mortality. Other people do not seem to be able to do the operation without a high mortality.

DR. HORSLEY, closing the discussion: I thank Dr. Goodwin for his very free discussion.

Answering Dr. Miller's question, I have not used the Brophy operation, because the modification of the Rose method is so much simpler and in my hands can be performed more rapidly. In closing, I might add that in the hundred or more harelip and cleft palate operations which I have performed, there have been no deaths.

A CLINICAL STUDY OF HYPOTENSION.*

By WARREN T. VAUGHAN, M. D., Richmond, Va.

Discussions of blood pressure in health and in disease have met the drawback that there is no unanimity concerning the normal blood pressure range. The older conception of blood pressure readings as corresponding to one hundred plus the age has passed into the discard and now a pressure of over 145 at any age is usually considered unphysiologic. Not long ago a blood pressure below 120 was classed as hypotension and while the limit is now placed ten points lower, by most observers, there is still some divergence of opinion. An added difficulty is encountered in the literature in that writers on hypotension have used different lower limits for normal pressure. Their statistical enumerations are therefore not subject to direct comparison.

We may briefly summarize the average normal blood pressure changes in man as follows: the systolic blood pressure of new born infants runs between 45 and 55 millimeters mercury, the diastolic about fifteen points lower. It increases daily after birth until on the tenth day it reaches an average of about 78 millimeters systolic. The greatest rise takes place during the first three days. From ages three to ten the average systolic pressure runs from 90 to 100 millimeters. Faber and James found hypotension to be rather common in children, particularly in asthmatics. From seven to fourteen years the average systolic runs in boys around 107, diastolic 71, in girls, 106/63. Up to eleven years the mean systolic pressure rises uniformly with age. After puberty a more rapid increase develops. The average adult level is reached in both sexes between the ages of seventeen and twenty. In the early adult years there is evidence of a slight lowering of pressure, perhaps slightly more marked in men than in women. Little support is found for the statement that the pressure in healthy persons increases as the years go by. It remains practically constant until age forty after which the figures for healthy women are a little higher than for men. The total rise due to age and increasing weight is usually not more than 15 millimeters. The relatively wide variations from these normal averages in apparently normal individuals is still to be explained. It seems probable that heredity plays some part. Race is also a factor, the systolic pressure of Chinese, for example, being 20 to 30 millimeters less than of Caucasians. The pulse pressure, however, is the same.

Hypotension does occur in otherwise apparently healthy individuals. Indeed, hypotension without other evidence of disease appears to be a desirable attribute. Fisher of The Northwestern Mutual Life Insurance Company found that in their hypotension series the death rate was only 35 per cent of the expected mortality as contrasted with their general mortality of 80 per cent of the expected. Muhlberg of the Union Central Life Insurance Company remarks that, "There appears to be no doubt of the fact that a low blood pressure past the age of fifty unassociated with any organic lesion to account for this low blood pressure is the best criterion that we possess that the individual will live beyond his normal expectancy." It has been remarked that often the hypotensives who in their earlier adult years have some symptoms of asthenia, later, when their blood pressures rise to around the usual normal, are in much better physical and mental condition than they were formally or than are other adults of the same age.

Barach, in a study of 655 healthy, young adults found twenty-three with systolic pressures between 100 and 110 and seven between 90 and 100. Thus, 4.5 per cent showed hypotension. In a series of 31,596 recruits examined at Camp Sherman, 5.5 per cent showed hypotension without cardiovascular lesion or other organic disease. Of 1,100 freshmen examined at the Carnegie Institute in 1924, 2.5 per cent presented hypotension.

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Alvarez, examining 6,000 men in the University of California, found 2.2 per cent of hypotensives. We may say that hypotension, systolic pressure below 110, appears to occur in about 3 per cent of apparently healthy, normal white adults.

In my own series of 3,000 routine physical examinations, 118 or 3.9 per cent were found to have systolic blood pressures below 110. This series differs from those just mentioned in that practically all of these 3,000 had symptoms of one sort or another, sufficient to justify their consulting a physician for study.

Of the 118 cases of hypotension, blood pressure below 110, which formed the basis of this study, eight carried a systolic pressure of 88 or below, thirty ran from 90 to 99, fifty from 100 to 104 and thirty from 105 to 109. In 3,000 routine physical examinations, 0.26 per cent ran a systolic pressure below 90; 1 per cent from 90 to 99; 1.67 per cent between 100 and 104; and 1 per cent between 105 and 109; 1.26 per cent showed systolic pressure below 100. In the remainder of this discussion we have eliminated those cases of pressure from 105 to 110 and have included those showing pressures of 104 or below. All cases in this series were adults.

The extreme hypotensions are of especial interest. Most of them had no symptoms referable to the hypotension. The diagnoses and pressures were as follows: Blood pressure 80/20—diagnosis, neurasthenia. B. P. 80/56—diagnosis, bronze diabetes, chronic myocarditis. B. P. 88/54—diagnosis, obesity; B. P. 88/52—diagnosis, visceroptosis, mucous colitis, achylia gastrica, chronic sinusitis; B. P. 64/65—diagnosis, congestive heart failure, lobar pneumonia, arteriosclerosis, diabetes mellitus; B. P. 82/52—diagnosis, obesity; B. P. 86/55, diagnosis, convalescent from acute ulcerative colitis. Inanition. Of these eight cases, three were seriously ill and five were symptom-free or nearly so. Among thirty cases with blood pressure between 90 and 100, only seven were seriously ill.

Among eighty-eight cases with blood pressure below 105, the myocardial factor may have played a part in eleven cases. In only two was there any objective evidence of cardiac decompensation. One was the diabetic with lobar pneumonia above referred to and another a case of chronic adhesive pericarditis with congestive heart failure. The other nine in whom the myocardial factor may have played a part were as follows: chronic myocarditis two cases; diabetes with myocarditis two cases; auricular extrasystoles one case; chorea with mitral regurgitation, no fever, one case; history of chorea one case; murmur cardiac non-organic one case, paroxysmal tachycardia (not examined during attack) one case.

Any discussion of the etiology of hypotension must take into consideration those physiologic factors which are responsible for normal blood pressure and indeed for increased blood pressure. These four factors are: 1—the driving force behind the blood column, that is the heart muscle and valve; 2—the arterial wall; 3—the peripheral resistance; and 4—the state of the blood itself, such as blood volume and viscosity.

We have just seen that in eighty-eight cases myocardial failure was present in but two and that only nine more had any sort of lesion in the heart. We may, therefore, say that with the broadest possible allowance for types of cardiac lesions the factor of force of cardiac contraction played a part in but 12.5 per cent of the hypotension cases.

As regards the second factor, the condition of the vessel walls, this probably plays very little part either in hypotension or in hypertension. It has been quite conclusively demonstrated that hypertension is dependent upon changes in the smaller arterioles rather than upon alterations in the structure of the larger arteries. Hypertension may occur with or without peripheral arteriosclerosis and is in a great measure independent thereof. Again, arteriosclerosis may occur without hypertension.

I find five cases of arteriosclerosis in my series of hypotension, only one of which had previously been a hypertension case. This man with blood pressure 64/45 was a decompensated cardiac while the other four had no obvious cardiac lesion, three being cases of chronic pulmonary infection and one pernicious anemia.

It is of interest that three of these four cases in whom the eye grounds were studied showed only slight changes in the terminal arterioles. One showed moderate arteriovenous compression and slight periarterial streaking. Another showed no arteriovenous compression, no periarterial streaking, a little variation

in the size of the vessels. The third showed moderate periarterial streaking and slight arteriovenous compression. None showed hemorrhage or exudate or arterial obliteration.

The third factor, that of alteration in the degree of peripheral resistance in the terminal arterioles and the capillary beds, is difficult to determine clinically, chiefly because we are dealing with a dilatation rather than a contraction. One case of neurocirculatory asthenia with tachycardia, palpitation, clammy sweating, and dependent cyanosis and easy flushing might well fall in this group. The urticaria and allergic cases might possibly be classed here but as yet we are too ignorant of the fundamental pathologic changes in this group of diseases.

The fourth factor, that of lessened blood viscosity, may have played a part in four cases, one of pernicious anemia, and three of secondary anemia.

A striking feature of the clinical findings in these cases is the occurrence of a wide diversity of pathologic conditions, conditions which are found as frequently in individuals with normal blood pressure or, indeed, with hypertension. Thus, there were three diabetics, six with active tuberculosis, five others with chronic pulmonary pathology, two pellagrins, thirteen with predominantly nervous or mental manifestations, and a wide scattering of other diagnoses such as epidemic encephalitis, cholecystitis, chronic appendicitis, hypothyroidism, colitis, ulcerative and mucous salpingitis, duodenal ulcer, prostatic hypertrophy, carcinoma of the oesophagus, and spastic paraplegia.

While there were seven cases with visceroptosis and five with asthenia without other apparent cause than the hypotension, these were balanced by five cases who felt perfectly well and showed no abnormality other than obesity. Obesity, which is usually a factor in the causation of hypertension, was present in seven hypotensives. Thirteen hypotensives showed some degree of inanition and emaciation but in all, with the possible exception of one, the general physical condition was the result of some other disease and the hypotension appeared to be but an accompaniment of the asthenic state resulting from the major disease. These diseases were bronze diabetes, acute ulcerative colitis, epidemic encephalitis, bronchial asthma, active pulmonary tuberculosis (four cases), chronic enterocolitis, lung abscess, carcinoma of the oesophagus.

The allergies are represented by fourteen cases or, if we include epilepsy, fifteen.

There were two of urticaria, six of asthma, one of vasomotor rhinitis, four of eczema, one of cylic vomiting and one epilepsy. Hypotension has been considered a characteristic finding in allergy. I have previously brought out that while in allergy the blood pressure may be below 110, it is more often within the normal range and indeed may be elevated. Twenty-three per cent of my entire series of allergics showed blood pressure below 110 as contrasted with 3.9 per cent of 3,000 consecutive physical examinations. We may say, therefore, that hypotension occurs more frequently in allergy than in the general run of internal diseases.

It is possible that endocrin upset has some influence on the third factor mentioned above, that of peripheral resistance. Certainly it has been shown that the secretion of the adrenal gland definitely influences the distribution of blood in the capillaries. In four cases the endocrin factor was predominant and probably was responsible for the hypotension. Two of these were hypothyroids, one polyglandular syndrome, and the third a case of acute adrenal insufficiency.

When we reach a study of the foci of infection, the figures at first glance appear rather startling. Of eighty-eight with blood pressure below 105, sixty-five showed focal infection at some location in the body. Seventy-four per cent carried focal infection. But for contrast we have the figures of the Life Extension Institute in which in 4,100 consecutive examinations irrespective of diagnosis 84 per cent showed pyorrhoea by X-ray. In 10,000 routine X-ray examinations of the jaw this institute found root infection in 63 per cent of adults. They concluded that 85 per cent of adults examined at the head office of the institute showed some focal infection. Focal infection therefore does not appear to occur more often in hypotension than in the general run. Furthermore, as is well known, this lesion is equally frequent in hypertension.

The conclusion to be drawn from this study is that hypotension is not itself a disease. It is usually but an incidental finding in otherwise healthy or diseased individuals and is not

the basic underlying pathology and rarely requires treatment per se. The hypotensive may be either obese or thin and may suffer from nearly any of the diseases to which flesh is heir except hypertension. The percentage incidence of hypotension in my series of 3,000 persons sick enough to consult a physician is practically the same as it is in series of healthy adults.

The danger of hypotension is not being exaggerated by physicians quite as much as it was formerly but all of us still see far too many patients who come in full of apprehension because a physician has told them that they have low blood pressure and that this must be treated. With rare exceptions hypotension itself does not need treatment. The hypotensive without other organic pathology is more fortunate than is the so-called normal pressure individual. His life expectancy is greater. His sense of well being and his productiveness will be greater at middle age than will be the case with the others. I have two physicians, both six feet tall, healthy, robust, indefatigable workers with blood pressure below 100, who, in their activity and endurance, put the rest of us to shame. I have an equally active business man with a blood pressure of 110 who, whenever his pressure is taken, as in insurance examinations is told with a shake of the head that he has low blood pressure and should be under treatment. Each time I must persuade him that he needs no treatment, indeed that he should consider himself lucky.

The first two know better but the third, an equally useful member of society, might easily have been made a chronic neurasthenic invalid.

I have hitherto made no reference to essential hypotension, that rather indefinite problematic condition characterized by headache and vertigo, palpitation after moderate exertion, mental and physical fatigability, pains in the chest, abdomen or extremities, in patients who lack stamina, have cold clammy extremities, and complain of their inability to perform the daily routine. In these no outstanding organic abnormality is observed outside of the hypotension. There are nearly as many theories of the causation of this so-called essential hypotension as there are writers on the subject. These theories are, briefly, adrenal insufficiency (Lawrence), focal infection (Hoxie), respiratory deficit and decreased oxidation (Barach), constitutionally inferior state (Levison), elongation of the ascending aorta with narrowing of its arch (Fossier), splanchnic pooling of the blood (Mosenthal and Greaves), and capillary stasis due to chronic poisoning from absorption of histamine or a histamine like body (Freedlander).

Sixteen of the eighty-eight patients with blood pressure below 105 might be classed as essential hypotension provided we adopt some of the wider descriptions of this condition that are used by some of the writers. However, even in this group other pathologic conditions exist such as visceroptosis and focal infection and there is no uniformity in symptoms, physical findings, methods of treatment or response to treatment.

707 *Medical Arts Building.*

Discussion.

Dr. Walter B. Martin, *Norfolk:* I am very happy to say that I find myself in complete agreement with the conclusions reached by the speaker. I think entirely too much stress has been laid upon the question of hypotension in itself. I am speaking now of so-called essential hypotension. This may be due to the fact that insurance companies have frequently rejected individuals with low blood pressure. That is probably due to their association of the condition with tuberculosis and the fear that in asthenic individuals with low blood pressure, they are dealing with pulmonary tuberculosis.

Speaking primarily of the so-called essential hypotension, my own experience is entirely in agreement with Dr. Vaughan's that these cases do not show consistently any pathology that is not shown in equal degree in people with normal pressure or in people with hypertension. The probability is that a great many people inherit a certain physical make-up that predisposes them to a hypotensive state. The greatest harm any one can suffer from hypotension is being told that their blood pressure is low and that they should be treated for it.

The lesson to be gained from this paper is that if we must tell these people something about their blood pressure we should tell them not that it is too low, but that it is not high and not give them the exact figure, or if they already know about it, tell them that their life expectancy is better. It may be that in early life they may be somewhat asthenic and not display as great an amount of energy as the rest of us, but in middle life and later life they will surpass us.

Dr. Vaughan, closing the discussion: I am glad Dr. Martin brought up the subject of essential hypotension and did not give it any special category.

As Dr. Martin has said, it is an excellent diagnosis if you have to pin a label on the patient. If a patient comes in or is sent out and has to have a diagnosis, it will let you out. But it places the emphasis on exactly the wrong thing; it emphasizes what ought not to be emphasized.

AGRANULOCYTIC ANGINA.

Report of one Case Occurring in Man.*

By ROBERT C. WHITEHEAD, M. D., Norfolk, Va.

Agranulocytic angina is the name given by Schultz in 1922 to a group of six cases characterized by a gangrenous stomatitis and a blood picture showing marked reduction of the total white cell count with a low percentage of polymorphonuclear leucocytes. These were all females and of middle age.

Since this initial report others have appeared in the literature, especially of Germany and later in the United States and Canada. Lovett reported in 1924 the first case in America. Kastlin, of Toronto, in the *American Journal of the Medical Sciences* of June, 1927, gives a full description of the disease and an exhaustive investigation of the literature and reported two cases occurring in the Toronto General Hospital. He gave the total number of cases reported at the time of his writing as forty-three, thirty-four of whom were females and nine males. Rotter reported the first case occurring in males and Lauter the first case resulting in recovery.

The onset is sudden, with chills, fever and malaise. The throat, tonsils or the alveolar arch is infected and necrotic. The local lymphnodes are enlarged. Jaundice usually develops with enlargement of the spleen and liver. Examination of the blood shows the red blood cells, hemoglobin and platelets normal with striking reduction of the white cells, which on differential count shows the polymorphonuclear leucocyte to be decreased and the percentage of lymphocytes relatively increased.

The bacterial studies have shown many organisms. Smears from the necrotic areas in many cases have shown the presence of the spirillum and fusiform bacillus of Vincent, staphylococcus, streptococcus hemolyticus, and others, but are negative for diphtheria. The petechial hemorrhages are generally absent but were reported as a late occurrence in one of Kastlin's cases. Bone marrow at autopsy is reported to be cell poor with almost total absence of granulocytes. The oral cavity is involved in all cases. The necrotic area involves the tonsils, throat, larynx or esophagus. A membrane forms in the majority of cases, which is described by Lovett as being nonmarginate with over-hanging edges, or with no surrounding inflammatory area. The course of the disease is generally fatal, usually terminating by pneumonia.

With this brief and incomplete description of the disease and without going into the question of differential diagnosis, I wish to report the following case:

Mt. T., white male, age forty-seven, occupation pilot, admitted to St. Vincent's Hospital through the emergency room, June 14, 1927, having fallen on the street. He gave the following history:

The PRESENT ILLNESS began about five weeks previously with soreness of the gums, at which time he consulted a dentist and was referred to a peridontist who gave a diagnosis of pyorrhea. In the course of treatment, several teeth were found necessary to be extracted. Smears made from his mouth revealed the presence of the spirillum and fusiform bacillus of Vincent. The diagnosis was changed to Vincent's angina. As part of the treatment of the latter, he received one dose intravenously of sulpharsphenamine. A Wassermann at this time was negative. The progress of the mouth condition was steadily bad with gradual spreading of the ulcerated area in spite of the treatment. During this period he lost seventeen pounds in weight. He was on his way to fill an engagement with the peridontist when he was attacked with dizziness and fell on the street.

PAST HISTORY revealed nothing bearing on the present condition. In 1913 he had some urinary trouble, variety not known, which necessitated a cystoscopic examination. He denied venereal infection and stated that prior to the present illness he had enjoyed exceptionally good health.

EXAMINATION. A fairly well nourished man, complaining of severe headache and pain in the left cheek and mouth. Temperature 104, pulse 110, respiration 26, blood pressure 150 over 80. The left cheek was slightly swollen with some induration over the superior maxilla near the alveolar process. The breath was exceptionally foul. Gums were inflamed, with pus around the remaining teeth. Extending from the upper excisor along the left side of the alveolar arch was a large membranous slough, dirty gray in color, covering the entire gum and involving the anterior pillar of the fauces. Laterally, this slough reached the hard palate and externally extended up to the buccal surface of the cheek. The tonsils were

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not involved. The facial sinuses were clear and transilluminated well. No other pathology was found. The thoracic and abdominal viscera, extremities, etc., were normal.

Laboratory report was as follows:

Urinalysis—Color straw, specific gravity 1,030, acid reaction, albumen, sugar 0. A few flat and round cells, many crystals of triple phosphates, no red blood corpuscles, pus nor casts. The above urinalysis continued to be reported from time to time through the course of the disease.

Blood picture on admission was as follows: R. B. C. 4,000,000, hemoglobin 70 per cent, W. B. C. 2,700, differential count, polys 10 per cent, lymphocytes 80 per cent, mononuclears 1 per cent, unclassified 9 per cent.

June 17th, the blood picture was as follows: R. B. C. 4,000,000, hemoglobin 70 per cent, W. B. C. 2,600, polys 16 per cent, lymphocytes 72 per cent, large monos 8 per cent, unclassified 4 per cent.

June 22nd, blood count showed a great reduction in white cells, W. B. C. 1,700, polys 18 per cent, lymphocytes 72 per cent, large monos 6 per cent, transitionals 4 per cent.

June 26th, the blood picture, R. B. C. 3,600,000, no reticulate cells, hemoglobin 65 per cent, W. B. C. 1,100, polys 18 per cent, lymphocytes 72 per cent, large monos 7 per cent, transitional 3 per cent.

June 28th, R. B. C. 2,570,000, hemoglobin 46 per cent, W. B. C. 850, polys 22½ per cent, lymphocytes 59½ per cent, large monos 16.5 per cent, transitional .5, occasional normoblast, reticulated cells 1 per cent, blood platelets 165,000.

July 4th, R. B. C. 2,000,000, hemoglobin 60 per cent, W. B. C. 1,700, polys 18 per cent, lymphocytes 50 per cent, monos 32 per cent. Smears from the mouth showed spirillum and fusiform bacillus of Vincent. Wassermann was negative. Repeated blood cultures were negative. Progress of the case was steadily downward. After a few days of moderate suffering, the pain became less and rapidly disappeared, he became more stuporous and slept most of the time. When he was aroused he expressed himself as fairly comfortable and not suffering. His appetite was poor and he took little food on account of the condition of his mouth.

On *June* 24th, a large piece of slough was removed but promptly formed again. The temperature continued high, 102 to 103 throughout the course of the disease. The pulse ranged around 120 and respiration never higher than 30. Toxemia continued intense with great drowsiness and occasional attacks of delirium.

On *July* 1st, slight jaundice of the sclera was observed for the first time. On the 3rd, the jaundice had become general and moderately deep in color. There was no hemorrhage in the skin or mucous membrane at any time. The condition continued unchanged except for increasing weakness and on July 8th he died. There was no evidence of lung involvement. The treatment throughout the course of the disease was symptomatic and supporting. No specific measure was attempted.

Autopsy was performed by Dr. Roche in ten hours and the following report was made: Body of elderly white man six feet and weighing approximately 160 pounds. Body deeply jaundiced, flaccid, no rigor mortis, slight bluish mottling of the chest wall. Incision from tip of sternum to pubes. Subcutaneous fat yellow, tissues dry, liver extended 4 cm. below the costal margin and has a peculiar nutmeg appearance, grayish in color. Gall-bladder filled with bile, left lobe extending to and covering the spleen. Spleen enlarged, capsule covered with adhesions, soft and wrinkled, three times normal size. Intestines are covered with fat and are collapsed. Both kidneys enlarged equally in size, external surface deeply congested, purplish in color. Sections of kidney show thickened capsule, atrophy of tubules, marked infiltration of leucocytes and blood in the glomeruli and tubules. Collection of blood here and there. Section of spleen shows thickened capsule and walls of capillaries, masses of lymphocytes and red blood corpuscles, endothelial and plasma cells; pigments scattered throughout the section. Smears from cut surface show red blood corpuscles and lymphocytes and a few myelocytes.

Section of liver shows dilated central vein and liver sinuses. Liver cell compressed and showed marked pigmentation. In some areas, cells are replaced by fat. Much pigment scattered throughout section.

Smears from bone marrow show only free fat. There are a few scattered lymphocytes and red blood corpuscles and a few normoblast.

Anatomical diagnosis, chronic passive congestion of the liver, spleen and kidneys.

The physical findings and symptoms together with autopsy report coincide so closely with the descriptions found in the literature

that a diagnosis of agranulocytic angina seems justified.

Medical Arts Building.

DISCUSSION.

DR. WALTER B. MARTIN, *Norfolk:* The principal point of interest in this case attaches to the question whether or not we are dealing with a clinical entity or whether the various writers have not grouped under one heading a number of different conditions that arise from various causes. I am one of those who believe that there is no such clinical entity as agranulocytic angina. We know that there are various conditions that will produce a picture very similar in character to the one just presented—arsenical poisoning, radium overdosage, aplastic anaemia, etc. Many of these cases are not reported fully enough to accurately make a diagnosis. Essentially, we have a failure of the blood-forming organs, a decrease in the agranulation cells due to more or less complete aplasia of the bone marrow. Those cases of agranulycytic angina coming to autopsy show aplasia of the bone marrow.

One of Kastlin's cases which Dr. Whitehead reports, if you will notice, is a typical case of arsenical poisoning. The patient received a dose or arsephanemin and a few days later developed an aplastic state. I have seen one case in which there was this clinical picture as a result of arsphenamine poisoning.

Overdosage of radium or X-ray will produce the same effect—rapid fall in the white cells. In cases that have dirty mouths it is not at all improbable that the predominating organism present will set up an acute infection. Infection that is present in any part of the body will flare up into activity, due to lowered resistance of the body. In Dr. Whitehead's case, which was observed for about thirty days, there was steady progressive anaemia, with two million red cells and a color index of 45 per cent., with almost complete absence of reticulated cells, depression of blood platelets and a decrease in the white cells.

ACUTE TRAUMATIC TUBERCULOUS ORCHITIS—REPORT OF A CASE.*

By NELSON MERCER, M. D., Richmond, Va.

Due to several points of clinical interest from which we may derive some benefit, this paper reporting a case of acute traumatic tuberculous orchitis is presented.

In the first place, this acute complication of quiescent pulmonary tuberculosis is less frequently found than the chronic variety of orchitis and epididymitis.

Secondly, involvement of the vas deferens, the seminal vesicles, the prostate, the bladder, and, finally, the opposite side of the genital tract, usually occurs if the disease is not checked in the early stage of development. Miliary tuberculosis may result from lack of prompt treatment of the above complications.

Thirdly, this case illustrates the fallacy of telling a patient he has "no tuberculosis" just because he is not running a temperature, has negative sputum, and has no demonstrable rales or other active signs in his chest.

Whenever a patient has had any signs of active pulmonary tuberculosis, always warn him to avoid all forms of violent exercise to prevent a possible reactivation in his lungs or some other organs of the body.

*Read at the fifty-eighth annual meeting of the Medical Society of Virginia in Petersburg, October 18-20, 1927.

REPORT OF CASE

The patient was a Captain, U. S. Army, age thirty-one, married.

Family History.—Father and mother and older relatives negative for tuberculosis. Patient's daughter, age six years, had been treated for tuberculosis of the hip for two years previous, and was still wearing a brace on leg. His second child was three years old and healthy. His infant son was apparently normal. His wife was healthy, and her family history was negative for tuberculosis.

Past History.—Had always been a healthy child and man prior to this attack. During the patient's tour of duty with the Army in France in 1918-1919, he was much exposed to all kinds of bad weather and fatigue, but never reported sick while over-seas. Upon his return to the United States in 1919, he was assigned to duty with his family at Fort Monroe, Virginia, and they were given a house which had recently been vacated by a family, one of whom had a "bad cough and looked thin and sick". This house was fumigated but not scrubbed when the family moved into it, and here they lived for about two years. It was here that the girl developed tuberculosis of the hip joint. The patient was then assigned to duty in Richmond, and enjoyed good health until he had a "spell of flu" in February, 1923. He was treated by his family doctor, but a persistent cough for over three weeks continued to cause him anxiety, and he consulted me for a chest examination in March, 1923. He also complained of fatigue on slight exertion, pains under shoulder blades, slight loss of weight and appetite, and small amount of thick mucus coughed up in the early morning. Temperature at 4 P. M. was 99 to 99.4. He had expectorated no blood, and had no night-sweats. Sputum and urine were negative.

Physical examination in March, 1923, showed persistent moist rales in left apex and left interscapular region, which continued until pa-

tient was sent to Walter Reed General Hospital for observation in April, 1923. He remained there six weeks, was discharged, and told that he had "no tuberculosis".

Report of X-ray examination made in Richmond in March, 1923, was as follows: "Moderately well-advanced disseminated tuberculosis involving both upper lobes. There is a bronchial type tuberculous infection involving the remainder of the lungs; some of this has calcified, but there are numerous uncalcified tubercles still visible on both sides. (Signed) J. L. Tabb, M. D., Roentgenologist."

Present Illness.—The patient returned to duty in Richmond in May, 1923, and remained free of all active chest signs and symptoms. The following August while in swimming at Fort Monroe, he fell flat on his stomach while diving into the water and immediately developed severe pain in the right testicle and epididymis, which became swollen and acutely inflamed.

Morphine was necessary to allay the pain which persisted for several days, becoming worse as the testicle and epididymis became more acutely swollen. There were distinct nodules along the vas deferens, and the clinical picture was typical of tuberculous epididymitis and orchitis. Previous to the injury there had been no evidence of either condition.

Dr. E. T. Trice, of Richmond, on duty with same regiment, also examined the patient, and we agreed that it was acute tuberculous epididymitis and orchitis caused by the trauma. The patient was advised to have the right testicle, epididymis, and vas removed by operation at once to prevent spread to other organs and the opposite side of the genital tract, which he readily consented to undergo. Ten days after the injury, Dr. Trice resected the diseased vas as far up as possible, and removed the right testicle and epididymis at a hospital in Richmond.

A smear showed numerous tubercle bacilli in the testicle, epididymis, and vas.

Subsequent History.—The patient made an uneventful recovery after the operation, and, following a leave, returned to duty in Richmond. He has been doing full duty in the Army since that time, and for the past two years has been on duty in the Philippine Islands where he and his family are enjoying life generally. There has been no return of the chest or other pathology, and no ill effects have been noted by the removal of the diseased organs.

Summary

1. Prompt and radical removal of the traumatized organs prevented spread to other organs, and probably miliary tuberculosis.
2. Acute traumatic tuberculous orchitis can occur in a case of quiescent pulmonary tuberculosis, even though no signs of active lung disease have existed for several months.
3. Never tell a patient that he has "no tuberculosis" if there have ever been any signs of active pulmonary tuberculosis demonstrated.

1100 *West Franklin Street.*

Discussion

Dr. Dean B. Cole, *Richmond:* I want to congratulate Dr. Mercer on his prompt diagnosis and his treatment. As most of us know, tuberculous orchitis is rare. In genital tuberculosis eight out of ten of all cases are in the epididymis, and it is only necessary to remove the epididymis in these cases. In tuberculous orchitis Dr. Mercer mentioned that you are likely to get a spread to other organs. This is due to the vascularity of the organ and the fact that it ruptures very easily. It may rupture into a vessel and thus give rise to disseminated tuberculosis or tuberculosis of the entire genito-urinary tract. I have never seen such an acute case, but it appears that prompt and radical removal is the only rational method of treatment. In the chronic cases, they can be treated with rest, diet, Alpine lamp, sun lamp, etc., but it is a long-drawn-out procedure and the results are doubtful. If it is of the epididymis only, prompt removal is always indicated.

Dr. Lawrence T. Price, *Richmond:* This paper is extremely interesting, and I rise to call attention to two points. Tuberculosis of the epididymis and testicle is often secondary to tuberculosis elsewhere, and I feel that sometimes a surgical operation is performed and the patient is dismissed with no further examination. I feel that the condition is so often secondary that in every case the patient should be exhaustively examined by an internal medicine man (that is, of the chest), and by a urologist to exclude infection of the upper urinary tract. This was forcibly impressed on me some six or seven years ago and again two years ago. A man presented himself with a history of cystitis, of tuberculous cystitis. At the same time he gave a history of having a right castration for tuberculous epididymitis. Two years after that he had a second castration. Then he came to me with tubercular infected urine. Cystoscopic examination revealed infection of both kidneys, the tubercle bacilli being demonstrated by the microscope and by culture in guinea pigs. However, he was put on medical treatment, has been at work every day in an office, has gained weight, and is practically well.

Another case developed after injury in a baseball game. Epididymitis and orchitis subsequently developed into a hydrocele, which was tapped. At that time he was examined physically and found to have a well developed lung tuberculosis. I want to stress the point of not stopping at the local diagnosis and operation and then dismissing the patient. The patient should be studied from a diagnostic and medical standpoint and given medical treatment, anyhow.

Dr. Mercer, closing the discussion: I thank Dr.

Cole and Dr. Price. I am very glad Dr. Price brought out the point he did. Of course, this patient had been given routine tuberculosis treatment before the injury occurred, and had become a quiescent case.

After the operation, he rested for two months and then resumed his duties.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

By F. S. JOHNS, M. D., Richmond, Va.

In the special branches of surgery an article is interesting only so long as the subject for its discussion has not become standardized. Surgery of the chest has opened up a new and interesting field for those who have given to it serious thought. Many of its problems have been solved, while a yet greater number are still in the state of development and experiment.

The operative treatment for pulmonary tuberculosis began its usefulness in 1907. Since that date a number of surgeons throughout the country have equipped themselves to do pulmonary surgery. Usually a new surgical procedure becomes popular in a few years, but the operative treatment for this large class of invalids has received comparatively little consideration. This is due probably to the serious problem of selection of cases suitable for the operation and to the poverty stricken condition of the great majority of these cases.

The operation for pulmonary tuberculosis has been standardized. This is the Wilms-Sauerbruch operation, which consists of resection of various lengths of the ribs from the eleventh to first, inclusive. This resection is done through a posterior incision and includes the angles of the ribs. With few exceptions, I have followed this method in fifty-nine operations for pulmonary tuberculosis.

My cases upon whom I did the Wilms-Sauerbruch operation showed results far beyond my expectations. The serious condition of these tuberculous patients usually necessitated the operation being completed in more than one stage. The operation is usually begun with the lower ribs, tenth or eleventh, but I encountered certain conditions which necessitated my doing the upper ribs first. Later, when the patient's condition had improved sufficiently, I anticipated completing the operation by resection of the lower ribs. My excuse for appearing before you is to discuss the exception to this general rule. In a limited number of cases I have collapsed only the upper part of the chest with good results.

I should here state definitely that every case which had the upper ribs done first had advanced pathology in the upper lobe. In other words, the operation was directed at the most strategic point first, with the hope of attacking the less seriously involved areas later.

Surgeons have failed to emphasize this sort of a campaign, due probably to theoretical rather than practical reasons, since I am unable to find any clinical evidence that upper thoracoplasty alone has been followed by ill results. The argument advanced that upper thoracoplasty alone would produce further invasion of the remaining lung has not been substantiated in my experience. Not a single case has shown any unfavorable sign or symptom in the lower lobes following the operation which could in any way be attributed to results of the operation. Some of these cases had a pneumothorax of the lower part of the lung which, of course, proved useful with a collapse of the adherent and more extensively involved upper area.

A few of my cases were poor risks with serious involvement of the apex. I had definitely planned to complete the standard operation in several stages. Some of these patients showed such improvement that they thought themselves well and did not desire further operation. A limited number of my series have had pathology confined to the apex. In this type of case I consider resection of the upper four or five ribs an ideal operation. The indications for this rather limited thoracoplasty on the upper lobe are: (1) those cases suitable for pneumothorax, but unable to get a complete collapse due to adhesions about the apex; (2) certain cases with a satisfactory pneumothorax of the lower lobe or lobes, with a faulty collapse about the apex; (3) cases which seem to have only apical pathology; lastly, (4) cases with advanced involvement in the apex, who are too sick to undergo the complete operation.

Those of you who have done the upper thoracoplasty, especially the first and second ribs, will agree with me that it is formidable surgery. A satisfactory exposure of the first rib is very difficult, especially in large muscular male patients. The danger of injuring the first intercostal artery when you cut the first rib close to the transverse process of the vertebrae should always be kept in mind. If more than

*Read at the fifty-eighth annual meeting of the Medical Society of Virginia, in Petersburg, October, 18-20, 1927.

one inch of the first rib is removed, care should be exercised lest you damage the subclavian artery. To eliminate pain following the operation, the ribs should be cut close to the tip of the transverse process. I think this is especially important in the upper ribs. Long posterior stumps give aggravating post-operative pain and slows the recovery.

The chief causes of death following the Wilms-Sauerbruch operation are: tuberculous pneumonia, wound infection and heart failure. The most serious of these post-operative complications is pneumonia. Not only does this troublesome condition involve the bad lung, but too often the dependable good lung is affected. Practically all thoracic surgeons agree that operations on the upper part of the chest are not often followed by pneumonia. It is a well-known fact that pneumonia is due to stasis which follows crippling of the function of expectoration by resection of the lower ribs. Brunner and Stoeklin report sixteen fatal cases of pneumonia in their series of 195 operative cases. Twelve deaths occurred after operation on the lower ribs; three deaths followed doing both lower and upper ribs at one sitting, and only one death occurred after upper thoracoplasty. This patient had had the lower part of chest collapsed a few weeks previously. It is a clinical experience with every abdominal surgeon that pneumonia is to be dreaded after upper abdominal surgery. I have been interested in the amount of collapse following resection of the first five ribs. Berard has said that the "first rib is the key to the thoracic dome." Some of these cases show almost a total collapse of the lung, while all of them have shown a very adequate compression. If we can get enough compression of the involved area with a limited amount of surgery, you have improved the operative risk and reduced the serious post-operative complications. I do not want to create the impression that upper thoracoplasty is suitable for a great number of cases of pulmonary tuberculosis, but my experience has convinced me that it has a place in the operative treatment.

DISCUSSION

DR. DEAN B. COLE, *Richmond:* Thoracoplasty is intended primarily to supplement and not to supplant pneumothorax. In pneumothorax complete collapse is usually neither necessary nor indicated. There is an optimum collapse—that is, the amount of collapse which is indicated for the maximum improvement of not only the collapsed lung, but also the opposite lung, for as you know, many patients who come to pneumothorax have a large amount of trouble in one lung and a moderate amount in the other lung. If there is an optimum collapse in pneumothorax, there is also in thoracoplasty. We used to think that the thing to do in pneumothorax was to put the lung down, squeeze out everything squeezable, and keep it absolutely at rest. Experience has taught us that this is not necessary nor always indicated, and what we are trying to do in every pneumothorax case is to find the optimum collapse and keep that patient as near this collapse as possible. The same thing applies to chest surgery; no two cases require exactly the same treatment. They must be handled individually. This patient (showing slide), Dr. Johns told you had had tuberculosis for a long time and was more or less of an invalid, but was one of those cases diagnosed as chronic bronchitis, confined very closely to the house, could not go out, could not get her feet wet, could not be in a draft, nor could she do many of those things necessary for the recovery of a tuberculosis patient. Fortunately, she became ill, developed a temperature of 105, and was put in the hospital. Collapse of the lung being impossible by pneumothorax, Dr. Johns operated and closed this cavity. That was some eighteen months ago. Clinically, she still has come rales, but the X-ray shows most of her tuberculosis healed. Just closing this cavity and getting rid of the caseous tuberculous mass shown here was enough to put this patient on her feet.

(Next slide.) In this patient there was a very similar sort of thing, except there was not the involvement of the other lung. You can see the tuberculous deposit here below the area of collapse. This healed as soon as the cavity was closed. When the cavity was collapsed, the patient was able to handle the rest of her tuberculosis.

(Next slide.) Here is a patient who had been in a sanatorium for five years, had hemorrhaged, had gone back and forth, had ridden the waves, thought he was going to get well, and thought he was going to die. He had a great big cavity, the size of an orange. The thing I feared was that he would hemorrhage again and possibly die before this cavity could be closed. The cavity was closed, and he is doing very nicely now.

DR. W. E. BROWN, *Blue Ridge Sanatorium, Charlottesville:* There is very little that I can add to Dr. Johns' interesting paper and Dr. Cole's discussion. I have watched the development of thoracic surgery with a great deal of interest. We have known for a number of years that we could get more positive results with artificial pneumothorax in suitable cases than through any other treatment. However, it has been found that numbers of cases cannot be successfully collapsed by artificial pneumothorax due to dense adhesions. The success of operators in producing collapse of the lung by pneumothorax varies from one-third to two-thirds of the patients who are tried. In our work at the state sanatoria, we have had several hundred cases of artificial collapse. In some instances we have gotten excellent results from partial collapse. This has been due to the fact that the air will collapse that portion of the diseased lung in which the most toxic absorption has taken place; and a comparatively small amount of artificial pneumothorax under these conditions would make the patient symptom free in a comparatively short time. In other cases, attempts at pneumothorax would produce a collapsed lower two-thirds, when the greatest amount of pathology would be in the upper third of the lung; and in these cases we frequently get no material benefit. It is in this particular type that a partial thoracoplasty appears to be indicated.

I am glad to see that Dr. Johns is getting such good results with the partial operation. It seems perfectly logical, and it follows in the same category with the same results we sometimes get from partial pneumothorax. I see no necessity for a complete thoracoplasty in this type of patient. Why should a patient be mutilated unnecessarily if the resection of four or five ribs would collapse the diseased portion of the lung from which the symptoms originate? If we can get our patients symptom free, what more can we ask? Time alone is going to tell what the results of this operation are going to be, but I think it is perfectly justifiable in those cases which all other means of treatment have failed to benefit.

DR. J. SHELTON HORSLEY, *Richmond:* I am wondering, in view of the excellent results of Dr. Johns' work and the improved results of resection of ribs in infants under two with empyema, as reported by Dr. W. C. Davison, whether there may not be in this some local nutritional effect, whether it may not be possible that the more extensive procedure causes a greater amount of hyperemia, which, as we know, is a good thing for the tuberculous lung, and whether that is the reason why we get a more satisfactory result from the open rib resection than from the puncture.

DIABETIC CELLULITIS OF THE FACE: REPORT OF A CASE.*

By WILBUR M. BOWMAN, M. D., Petersburg, Va.

I feel greatly indebted for the privilege to report this single case of Diabetic Cellulitis of the Face before this Society. So far, I have been unable to find in the available records just such a case. A number of cases of carbuncles of the neck, however, are on record; also a huge diabetic carbuncle of the upper eyelid has been reported. Perhaps of interest and value is a case of "Diabetes Mellitus with Multiple Abscesses" which was reported in the *West Virginia State Medical Journal*, 1919-20, but to date the editor has been unable to locate the article. I would like very much to know the location of those lesions. In the case now reported there were eleven abscesses scattered about the cellular tissue of the forehead, eyelids, nose, and cheeks, but, unlike the usual cases reported, they were not carbuncles. They lacked that moth-eaten appearance so characteristic of a carbuncle. I wish it were so that this body could have seen the patient as words are inadequate to describe vividly or with justice the horrible, existing condition which perception alone could indelibly impress upon the mind. This patient was seen, however, at the hospital by the eye, ear, nose and throat physicians and other members of our staff.

*Read at the fifty-eighth annual meeting of the Medical Society of Virginia in Petersburg, October 18-20, 1928.

CASE REPORT

XYZ, a white male patient, sixty-seven years of age, was referred and admitted to the hospital on June 19, 1927, with a diagnosis of Diabetic Cellulitis of the Face. Father died at the age of sixty-eight with Bright's disease. Mother died at the age of eighty-eight from "senility". One sister died of "kidney disease". Several brothers and sisters are alive and well.

PAST HISTORY. In 1918 the patient had an attack of influenza. During a period of April and May this year he had a very difficult time healing an infected lesion of his foot. He is a man of general good habits. I might state, however, that he has always been an excessive eater, especially of sweets. Constipation has been a noticeable factor practically all his life. His normal weight for years has been from 225 to 245 pounds but for a few months prior to present illness there has been a definite weight loss. This has been accompanied by a tired feeling and moderate polyuria.

PRESENT ILLNESS. On June 1st a small, painful pimple on the left side of his nose was scratched and picked. Shortly afterwards there was evidence of an acute inflammatory condition around the area accompanied by swelling. By the fifth day this had extended upward and involved the tissues around the right eye. This was diagnosed as erysipelas by the attending physician. As the swelling progressed to the left eye, the right one improved only to be involved again later. The tissues of the forehead and upper part of the nose became swollen. This was followed by a marked discoloration with gangrene threatening. About the twelfth day a purulent discharge started from both nostrils. Strikingly peculiar is the fact that there was only moderate pain, the patient's main complaint being a discomfort caused by the tenseness of the swelling and discharge. It was obvious that he was not improving so a specimen of urine was examined and this revealed sugar.

PHYSICAL EXAMINATION revealed a white man about sixty-seven years of age, six feet two inches in height, and weighing approximately 180 pounds. On admission the temperature was 101 1/5, pulse 105, and respiration 20.

There was a marked cellulitis of the greater portion of the face extending chiefly about the forehead, nose, eyes, and both maxillary areas.

In all there were eleven abscesses present. Five small ones varying in size from a dime to a fifty-cent piece were located on the forehead. One completely filled the upper left eyelid. The lower lid being edematous, completely closed this eye. A similar but reversed condition existed in the right eye. A large abscess present over the dorsum nasi and the lateral sides obscured all anatomical landmarks of the nose except the nasal apertures and even pus was draining from these in a continuous stream. The abscess present in the right cheek was about the size of a lemon. In the opposite cheek was the largest one of all being at least the size of an orange but not draining. In the same cheek proximal to the nose was a smaller one about the size of a walnut draining at an opening near the internal canthus of the left eye. This opening was connected with one at the internal canthus of the right eye by a sinus tract extending across the bridge of the nose. Into this tract also pus was draining from the abscess in the right eyelid, from one in the forehead, and from the nose. Application of slight pressure was all that was required to increase the discharge of thick pus from these openings. A dark blue discoloration predominated practically over the entire surface of these abscesses with a dark red around the margins. Once seen it was a "face you could not forget and words can not describe".

Blood pressure 155 systolic and 80 diastolic. Lungs were negative. Examination of the heart revealed a slight, soft, mitral blow at the apex occurring with the first heart sound but not transmitted. A slight, soft aortic blow occurred with the first sound but was not transmitted. I was unable to detect the cardiac extent on account of overlapping lung tissue. Abdomen was negative. Teeth were absent. A small pustule was present at the bend of the elbow.

The laboratory report was as follows:

June 19, 1927.

Urine	Sp. Gr.	React.	Album.	Sugar	Ac. and Diac.	Casts	W. B. C.	R. B. C.
	1.018	Acid	trace	pos.	neg.	few hyal.	rare	neg.

Quantitative Sugar 1.27 per cent

June 20, 1927

Blood	Reds	Leucocytes	Hemogl.	P. M. N.	Lympho.
	4,280,000	21,800	79%	89%	11%

Wassermann reported at a later date as negative.

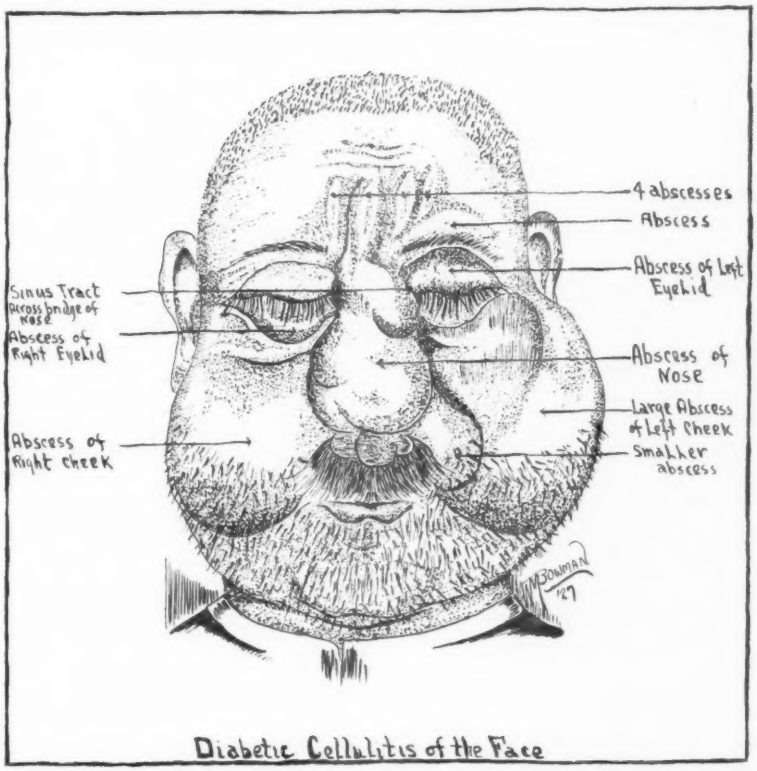
Treatment and Progress. To control the glycosuria as soon as possible before undertaking any surgical intervention was the aim in this case. Ten units of insulin were given soon after admission. Twenty-four hour urine specimens were started. Continuous local applications to the face of hot magnesium sulphate (one-half saturated solution) compresses were begun. This was aided by the heat from a 260 watt therapeutic lamp. Irrigating each nostril with warm normal saline every four hours seemed to give the patient his greatest relief by allowing him to breathe easier. A 2 per cent mercurochrome solution was instilled in the sinus tract at intervals. A warm soda enema (high colonic) was ordered daily. The patient was kept on a light diet and ten units of insulin three times a day until his basal metabolic diet could be determined. Under this regime he began to improve at once. On the 23rd of June there was only .45 per cent sugar or 7.48 grams present in the twenty-four hour specimen. At this time he was put on a basal diet consisting of

F 155 grams
P 54.5 grams
C 55 grams

giving a keto-anti-ketogenic ratio of 1.6+. Insulin was increased to 45 units daily. On the following day he was sugar free with a blood sugar of 190 mgs. per 100 c.c. blood. About this time the right eye had opened showing the eyeball in perfect condition. The left eyelid, however, had swollen to such an extent that the lids could not be retracted enough to allow a slight view of the orbit. Pus continued to drain freely from the openings previously described. The temperature varied from 99 2/5 to 101 2/5. At the appearance of several pustules about the forehead he was given 20 c.c. of a 1 per cent mercurochrome solution intravenously in the afternoon. The temperature shortly rose to 105

but by morning had fallen to 97. The pustules had disappeared and the abscess in the left eyelid broke and allowed a view of the undamaged eyeball for the first time since closure of the lids. The temperature remained below the 100 mark for five days, after which time it began to vary between 99 and 101. On the basal diet he began to run about .3 per cent urinary sugar so the insulin was gradually increased to 66 units daily, rendering him sugar free and giving a blood sugar of 142 mgs. per 100 c.c. blood on July 4th. Only occasionally was there a slight trace of acetone noted. I might state that an X-ray taken on the 27th of June did not show any bone destruction nor was a definite statement made as to the presence of pus or granulations in the sinuses. Feeling assured that the patient was now under control, the non-draining abscesses were incised under local anaesthesia on July 6th. The heat from the therapeutic lamp was kept applied to the face continuously. From this time on the patient made a very rapid recovery. The bluish discoloration began to disappear and a natural pink color took its place. The left eye continued to open. The purulent nasal discharge had stopped. On July the 17th, just eleven days after opening the abscesses, the patient was allowed to leave the Hospital accompanied by a nurse who was to instruct some one in the family how to administer the insulin. On the day of discharge the urine continued sugar and acetone free while the blood sugar was 134 mgs. per 100 c.c. blood. Leucocytes were 11,200.

The patient has been seen several times since his discharge. All of the incisions have healed nicely and appear only as ordinary wrinkles. He is up and about, gaining in weight, and feeling fine. While increasing his caloric requirement there has been a gradual reduction in insulin. On September the 8th, the blood sugar was 86 mgs. per 100 c.c. blood. On October the 5th, the daily insulin dose was only 7 units while the blood sugar was 112 mgs. per 100 c.c. blood. On October the 10th, the insulin was discontinued altogether. Not once has he shown sugar since being discharged. His diet, which consists of 2,500 calories at present, is being strictly adhered to.



Diabetic Cellulitis of the Face

COMMENT: There are a number of interesting features about this case but I shall only stress those that seem to be outstanding. Those complications that could have happened very easily but did not, might be noted. How easy it was for diabetic gangrene to have taken place. How about a septicemia when in all probability a bacteriemia already existed. The eye, ear, nose and throat physicians who saw this case immediately remarked as to a complicating sinus thrombosis since this has occurred from so simple a lesion as a pimple on the nose. In fact, I was informed by one of the specialists a few days ago that such a thing happened recently in a case which made a lethal exodus. Even a sinusitus, local hemorrhage, embolism, etc., were in order.

Interesting of course is the lack of pain. This patient complained more of the nasal discharge, heat from the therapeutic lamp, or the prick of the hypodermic needle than he did from anything else.

This case illustrates very strongly the fact that in cases of diabetes with infection the amount of insulin required daily is greater than under ordinary circumstances on account of a lower sugar tolerance. Apparently, this patient had an exceedingly low tolerance as indicated by a daily insulin dose of 66 units to keep him sugar free on a diet containing a total carbohydrate intake of 102 grams. It is noteworthy however that as the infection subsided the tolerance increased.

It is perhaps needless to stress the fact that conservative surgery of the face should be the procedure of choice, especially in such cases.

121 *North Union Street.*

DISCUSSION.

DR. GEORGE H. REESE, *Petersburg:* There is very little that I feel like saying in regard to this case after the complete description given by Dr. Bowman. Also, for the reasons given by him; there is practically nothing in the literature bearing on just such a condition as this. We are all at least theoretically familiar with furunculosis and gangrene accompanying diabetes; we all know that any diabetic is susceptible to infection; but I am quite certain there are few men who have seen just such an angry-looking infection as this one Dr. Bowman has described. When he called me in consultation with this case and told me he expected me to operate on it, I was considerably set back, because I thought he had wished something on me. It was about as discouraging looking a proposition as a man could well face, and as I had had some observations of the effect of boils and carbuncles on the upper lip appearances were not reassuring. I saw two men die within a period of two or three months from the effects of what looked like small boils on the upper lip. As this thing extended over the whole upper part of the face it was clearly apparent that the man was in great jeopardy. I was rather surprised that the man was not already dead, and I was more surprised to find that up to the time I saw him he had really no bad symptoms; but just what you might call "bad looks."

My part in the performance was incising these areas and slipping little rubber tubes in to permit drainage. It was a case that I greatly appreciated seeing and a case that Dr. Bowman very wisely got in shape for surgical procedure at the proper time. For that I think he is greatly to be commended. It is a very instructive case and a case that bears out the value always of thorough preparation for any work you are going to do, especially in infective surgery, where you are so likely to set up a septicemia by ill-considered and excessive measures.

DR. BOWMAN, closing the discussion: I have nothing further to say, but want to thank Dr. Reese for his very helpful and free remarks. I appreciate them.

THE MINERAL WATER RESOURCES OF THE STATE OF VIRGINIA AND THEIR THERAPEUTIC PROPERTIES.*

By WILLIAM EDWARD FITCH, M. D., Buffalo Lithia Springs, Va.

Long before the coming of the white man to this continent, mineral springs were empirically known and employed by the native Indians, and with good results, in the relief of many diseased conditions. It may be interesting to note that practically all the spring areas in use today as spas and resorts were first pointed out by the red man to his white brother as "medicine springs."

The development of quantitative chemical analysis opened the way for a definite understanding of the nature and quantity of mineral salts contained in waters. In the early days chemical analysis was not well developed. and precise methods had not been perfected; therefore, it was difficult to demonstrate with certainty the presence of minute quantities of elements.

Late researches in medical hydrology have brought out and established the fact that the active substance of a curative water is present in extremely small amounts and that often only infinitesimal quantities of an element suffice to bring about profound biological changes in both man and animals. The progressive physician who would keep pace with the advancement of modern science must realize that quantities of mineral elements so infinitesimal as to be unweighable and often only spectroscopically detectable are sometimes capable of producing profound biological

*Read at the fifty-eighth annual meeting of the Medical Society of Virginia, in Petersburg, October 18-20, 1927.

effects, and therefore possess significant therapeutic properties.

The history of mineral waters and mineral springs in general, however, dates back and beyond the beginning of Christian Era. The Egyptians, Arabians, Mohammedans, Greeks, Romans, and, in fact, all nations of the earth have used mineral waters for medicinal purposes from time immemorial. These centuries of experience have demonstrated that in certain chronic diseases, the intelligent use of mineral waters surpasses the curative action of drugs from the corner pharmacy. While European physicians have always appreciated the curative virtues of mineral waters, American physicians have, through apathy or neglect, overlooked the fact that we have in our own country the counterpart of the best European springs. It is a historical fact that mineral waters have been of great benefit to mankind. For the first five hundred years following the Christian Era, mineral waters were the only medicinal agents used by the Roman physicians, and their "Aqua Calientes" have been in constant use for drinking and bathing cures for more than two thousand years. Josephus refers to the thermal baths at Caliorrhoea, near the Dead Sea, made famous by Herod the Great, who resorted there for the use of the baths during his illness. The thermal baths at Bath, England, have a history extending back to the time of Christ, while legend and mythology carry the record back to 800 B. C. Parts of the architectural structures built here by the Romans, between 43 and 84 A. D., are still standing—though they have been in constant use for nearly 2,000 years. The spring at Ala-Sherhr, the Philadelphia of the New Testament, has been in constant use since the Third Century, B. C., and the waters of these springs are still bottled and sold all over Asia Minor.

The European spas and watering places take an annual toll of at least $100,000,000 from American citizens seeking health and recuperation at European resorts. Some of them go to foreign watering places under the delusion that foreign things are better than those at home, and that the more inaccessible and expensive a thing or place is, the better it must be; others go because the prescribing physician is not creditably informed that in our own country we possess every kind and class of mineral waters which have made the European spas so popular and wealthy. It is a serious reproach on the medical profession of our country that so many thousands, even millions of patients have spent small fortunes hunting health and happiness at European spas when they could have had the same scientific care and more considerate attention at home for a fraction of the cost, and the additional advantage that our American spas and mineral waters are not only equal to any in the world, but in many respects far superior.

Many of the greater American spas in the United States have been and are expending vast sums of money in the construction and equipment of resorts which in many particulars excel any similar establishments in foreign countries. They have for their medical directors eminent physicians who have mastered the science of hydriatics, so that it is no longer necessary for American physicians to subject their patients to long and hazardous sea voyages to secure treatment at a foreign mineral spring or spa.

There are scores of resorts throughout the country offering every comfort for the invalid, while the larger spas offer all the comforts of the home, all the advantages of the best sanitarium, all the service of the best hotels, with every comfort, convenience and luxury to be had at any spa in the world. Europeans secure relief at their home spas, and we should at ours. Change of scene and travel are just as beneficial and invigorating here as in Europe and this great country of ours, stretching from Canada to Mexico, and from the Atlantic to the Pacific Oceans contains scenic effects as interesting as any in Europe.

There is imported into the United States annually something like 4,000,000 gallons of foreign mineral waters, representing in value more than $1,000,000; but our domestic consumption of mineral waters far surpasses this, reaching some 70,000,000 gallons a year and aggregating in cost about $25,000,000. The magnitude and great practical importance of this aspect of therapeusis—the use of mineral waters medicinally—ought to awaken the minds of the American medical profession to the great potential possibilities for scientific mineral water therapy—through these God given natural medicinal agents, charged with potent therapeutic properties.

Virginia Mineral Springs

The State of Virginia has 100 spring localities, with a total of 320 individual mineral

springs, eighty of which have been analyzed, and sixty at various times used as resorts. The State has long been renowned for the number, variety and value of its mineral springs, and even at the present time it stands well toward the head of the list in this respect, only California having a greater number of mineral springs. All classes and varieties of mineral waters are found in this State, the alkaline waters predominating, followed by the chalybeate, sulphureted, alkaline, alkaline-saline, acid, and thermic.

Alkaline Waters.—There are twenty-five alkaline springs in the State, viz., Bear Lithia, Buckhead, Buffalo Lithia Nos. 1, 2, 6 and 8; Farmville Lithia, Golindo Lithia, Hot Springs—Boiler Bath, Hot Spout Bath, Octagon Bath, New Hot, Sulphur Bath, and Magnesian Spring; Jeffress Lithia, Massanetta, Nye Lithia, Osceola, Otterburn Lithia, Powhatan, Rubino, Seawright, Stribbling, Virginia Etna, Healing, and Wyrick Springs.

Alkaline Saline Waters.—There are three localities where this class of waters are found, viz., Buffalo Lithia Nos. 4 and 5 Springs, Burnett's Mineral Spring, and Carter's Springs. Like her sister State, North Carolina, Virginia has no muriated alkaline saline springs.

Saline Waters.—There are three spring localities where saline waters are found, viz., Alleghany Springs, Berry Hill Springs and Healing Springs. All of these springs are of the sulphated saline type or class. The two first named are the highest in total solids of any springs within the State.

Ferruginous Waters.—There are three localities in the State where chalybeate, ferruginous or iron waters are found, viz., Buffalo Lithia No. 3 Spring, Dagger's Chalybeate, and Rock Enon Springs. All of these contain the bicarbonate of iron. Buffalo Lithia No. 3 Spring carries 65 milligrams of iron bicarbonate to the liter. Rock Enon carries 243 milligrams of the iron bicarbonate to the liter, and Dagger's chalybeate springs contains 55 milligrams of iron bicarbonate to the liter.

Sulphureted Waters.—There are three spring localities in the State where sulphur waters are found, viz., Cold Sulphur Springs, Dagger's Sulphur Springs, and the Virginia Hot Springs, with one spring sulphureted—the Sulphur Bath Spring. All of the Virginia Hot Springs contain large volumes of carbonic acid, and, in addition, they are highly radio-activated, all of which adds to their therapeutic potency and medicinal usefulness.

Thermal Springs.—There is only one area in the State of Virginia where hot waters are found, and that is the celebrated Virginia Hot Springs. All six of the springs are hot, with temperatures ranging from 35.5 to 41.5 Centigrade. The waters are also highly charged with carbonic acid gas, and the Sulphur Bath Spring with sulphureted hydrogen; in addition, they are highly radio-active.

Arseniated Waters.—Virginia, like her sister State, North Carolina, has one spring which contains traces of arsenic. The Crocket Arsenic Lithia Spring carries almost one-third of a milligram of disodium arsenate to the liter of water and is the only spring in the State which contains this element.

Acid Waters.—There are five localities in the State in which acid waters are found, viz., Bath Alum Springs contains free H_2SO_4, Bedford Iron Alum Springs contains free H_2SO_4. The Rockbridge Alum Springs contains aluminum sulphate $Al_2(SO_4)_3$. The Shenandoah Alum Springs contains aluminum sulphate $Al_2(SO_4)_3$, and the Wallawhatoola Springs contain aluminum sulphate $Al_2(SO_4)_3$. Usually this class of waters contain the sulphates of iron and aluminum, although there are a few springs which contain free sulphuric and hydrochloric acids.

Radio-Active Waters.—There is only one locality, so far as is known at present, which contains radio-active emanations, and that is at the Virginia Hot Springs. Five of the springs in this area on scientific test have revealed the presence of radio-active emanations.

The Physiological Action of Mineral Waters

Alkaline Waters.—The physiological actions of the sodic bicarbonated alkaline waters increase metabolism, dissolve uric acid, and allay irritation of the mucous membranes of the whole genito-urinary tract, and at the same time aid in the elimination of uric acid deposits from the system. The physiological action of the magnesio bicarbonated alkaline waters stimulates secretions, neutralizes acidity and in large amounts exerts slight laxative action. They are, perhaps, the best of all the bicarbonated alkaline waters for correcting acid conditions of the stomach. Their physiological action favors the elimination of uric acid deposits from the bladder and kidneys, and allays irritation of mucous membranes of the

genito-urinary tract. Increased uric acid excretion is always looked upon as a favorable omen, provided it is not due to increased uric acid formation, which may result, if an increased allowance of purin-containing foods are ingested. Calcic bicarbonated alkaline waters inhibit secretions of the digestive, respiratory and genito-urinary tracts. Such waters would exert beneficial action in cases of obstinate diarrhoea.

Alkaline-Saline Waters. — Physiologically, the sulphated alkaline saline waters exert diuretic action, and in large quantities increase peristaltic action, liquify the intestinal contents, and promote slight purgative action without unpleasant after-effects. This class of waters stimulates the excretions of bile and improves the tone of the muscular tissues of the bile ducts, thereby assisting in the expulsion of excrementitious matter. They are obviously of great help in the proper function of the stomach and aid the action of synergistic remedies which may be indicated. This class of waters also acts on the circulation of the blood in the liver, assuages catarrhal and inflammatory changes in the gall-bladder and bile ducts, dilutes the bile and promotes its excretion.

Saline Waters.—The physiological action of the sulphated saline waters exerts a laxative or purgative action, according to the percentage of the predominating sulphate ions present, and the quantity of the water ingested. The calcic, sodic, sulphated saline waters exert a carminative action on the stomach mucosa, dissolving and eliminating mucus from the stomach and bowels. It also relieves kidney irritation, rapidly facilitates diuresis, thus increasing kidney function. Their physiological action promotes interchange of fluids and salts in the tissues, modifies secretions and excretions, and stimulates oxidation and cellular activity. This class of waters also exerts diuretic, antacid, and disintegrating effects upon vesical and renal calculi; the urine is rendered less acid and less irritating, and is much less likely to deposit urates; therefore, the tendency to stone formation is decreased and, when present, the solvent action of the waters gradually tends to disintegrate stone formation.

Ferruginous Waters.—Physiologically this class of waters increases the hemoglobin content of the blood, stimulates a flagging appetite, promotes bodily vigor, and allays intestinal activity. Of all the chalybeate or iron waters, the bicarbonated is the most agreeable to take and the most efficient in action because of their prompt and easy assimilation by the system, due in large measure to the combined free carbonic acid held in solution in these waters.

Sulphureted Waters.—These waters physiologically increase the action of the integumentary system, the intestines, and kidneys. The internal administration of sulphur waters stimulates the appetite and gastric function—where there is a moderate amount of sodium chloride present; but if an excess of calcium sulphate is present, digestive disturbances will always result.

Thermic Waters.—The action of hot sulphur baths increases body temperature, stimulates heart action, diminishes blood pressure, and stimulates nutritive changes in the tissue cells, particularly those contained in the organs of elimination.

Acid Waters.—Physiologically, the ferrous sulphated acid waters have a styptic taste and exert an astringent action; those containing free sulphuric acid and free hydrochloric acid exert a slight astringent action on relaxed conditions of the mucous membranes, especially when characterized by chronic diarrhoea and dysentery.

Radio-Active Mineral Waters.—Waters containing radio-active emanations, when imbibed, pass directly through the walls of the stomach and intestines, passing thence by diffusion in the capillaries of the lymph and portal venous system. The energizing effects of radio-active emanations on the body ferments is most remarkable. Waters charged with radio-active emanations seem to be endowed with the power of energizing or activating the body ferments or enzymes; in other words, they stimulate to greater efficiency the proteolytic and diastatic ferments and set in motion that long chain of cleavage processes in the various foodstuffs, the necessary prelude to their absorption, assimilation and ultimate transmutation into living protoplasm. Furthermore, radio-active emanations increase autolytic, diastatic, glycolytic, urolytic, pancreatic, peptic and lactic acid fermentation.

Dissociation Theory of Mineral Salts

From the hydrolytic standpoint, an acquaintance with the laws which regulate saline solu-

tions is of momentous importance, since a mineral water is an exceedingly complex inorganic body, whose properties are dominated by its physio-chemical constitution. According to the ionic dissociation theory, a salt in solution forms an electrolyte and is completely split up into ions, and, under the influence of true vibratory conditions, perpetual exchange of ions takes place from molecule to molecule; these ions vibrate, side by side, and, according to positive or negative influence, join with the ions of a neighboring molecule. These ions vibrate in the solution under the positive or negative influence of their electric charges. Therefore, it is fallacious to entertain the idea of mineral water as an inert body; it represents, on the contrary, a real mineral species, complex, of course, but a perfectly balanced association of molecules and ions endowed with certain specific properties—*Life*. These molecules and ions possess an electrical equilibrium, a positive attraction or a negative repulsion, and in certain qualities of living forces, all of which come into play in the solution; the molecules and ions react on one another in a multitude of exchanges and combinations, rapidly made and as quickly undone! A mineral water is a very complex solution, it represents a living medium, the knowledge of which is yet incomplete, but nevertheless highly interesting. Furthermore, in all probability, the ions, rather than the dissociated elements *per se*, are responsible in great part for the specific action of mineral waters; this dissociation theory explains, or at least gives an insight into the pleasing effects obtained from the administration of mineral waters. Ionic dissociation does not, therefore, change the percentage composition of a salt, but may substantially change or modify its therapeutic potency. If the medicinal virtues of a natural mineral water depended alone upon its water constituent, it is questionable if invalids would have sought the curative influences of the various mineral springs which have successfully stood the test for centuries past.

The Value of Mineral Waters in Chronic Diseases

Long experience emphasizes the fact that the greatest usefulness of these natural medicinal agents is in chronic disorders, where they are found eminently serviceable. To secure beneficial results in this type of disease, the use of the waters, like the disease, will have to be continued for weeks or even months. Instantaneous cures need not be expected, but the remedy should be persistently and patiently administered and relief will gradually be brought about. Like all other medicines, mineral waters should be used, discontinued or modified in their dosage or usage, with a strict regard to their therapeutic action on the body and their beneficial or outward effects upon the disease. Whenever prescribed, their actions should be watched with the same care with which we note the action of any other drug; they should be continued or temporarily or permanently discontinued or controlled in their action by some appropriate adjuvant according to the indications and as the progress of the case demands.

Adaptation of Mineral Water Treatment to Disease

In prescribing mineral waters, we are guided by the predominating chemical constituents as revealed by analysis, and we can never be absolutely certain but that substances present in much smaller quantities, or even in infinitesimal traces do not play a more important role in the physiological action of the water than is generally conceded. Chemical science has done much to put the administration of mineral waters above empiricism and on a safe and scientific basis of clinical experience. After all that science effects in determining the component parts of a mineral water, it is experience alone, from their use, that can be fully relied upon as to their specific virtue or applicability in a given disease.

Clinical Experience

It is upon clinical experience alone that the therapeutic properties of any remedy is weighed and its curative virtues determined. Some of the most eminent medical authorities, legion in number in this and other countries, have tested clinically the medicinal virtues of mineral waters, and given their unqualified endorsement attesting the therapeutic action of mineral waters as remedial agents. It must be borne in mind that mineral waters are not a "panacea" for all the ills of mankind. There are many diseased states of the system where they are not even indicated, and, if administered, may exert harmful influences. On the other hand, they are exceedingly valuable medicinal agents, and will unquestionably give relief in many diseased conditions where the ordinary galenicals will not.

CONFIDENCE IN MINERAL WATER THERAPY

An earnest presentation of the therapeutic properties and the scientific administration of a mineral water, based on its mineral constituents as shown by analysis, and attested by the experience of eminent physicians, should command the serious consideration of the unbiased practitioner and convince him that we have in these agents a valuable addition to the materia medica, and one we may prescribe with the utmost confidence when the pathology behind the disease or diathesis is appreciated and a suitable water selected.

The necessity for teaching hydriatics in American medical schools is apparent on all sides. In the past, medical students have not been instructed in the therapeutic properties of the various classes of mineral waters, nor have they become acquainted with their physiological action and clinical indications. This knowledge is of momentous importance and cannot be successfully disseminated except through a chair in the leading medical schools, which, thus far, have shown little or no inclination to supply this dearth of information. Until the science of medical hydrology is properly taught, American physicians will continue to send patients to the European spas, where they know that on arrival the patient will be placed under the supervision of a physician who thoroughly understands the physiological action and therapeutic effects of mineral waters and is skilled in medical hydrology. During the recent past, there has been manifested unmistakable revival of interest on the part of the profession in the therapeutic value of mineral waters in the treatment of chronic disorders. This renewed interest in medical hydrology is encourgaing, for we have in our own country every variety of mineral water found in other parts of the world. If the American medical profession is satisfied to be mere feeders to European spas, there is no incentive to study medical hydrology; but if they want to keep abreast with present day science and render intelligent useful service to their patients, then they must of necessity understand crounotherapy and balneotherapy.

DISCUSSION.

DR. MARK W. PEYSER, *Richmond*:—It has been said that if an individual pursue at home the same method of living that he does at the springs—following the same diet, taking the same amount of exercise and drinking copiously of water—he would derive therefrom as much benefit as though he did these things at the springs. This is probably true in many instances, especially where the water has no marked chemical properties. But at Rawley Springs (which Dr. Fitch failed to mention), twelve miles west of Harrisonburg, there is a bold spring of iron water that has no peer in this country and an equal only at Spa in Belgium. In it the mineral exists as ferrous carbonate in a nascent state. So delicate is the solution that upon standing for an hour or two only, the iron is precipitated in the form of an oxide; and various attempts to bottle it so as to maintain the ferrous state and enable it to be placed on the market, have failed. I have seen some remarkable instances of relief and cure following a course of this water; and have, myself, experienced much benefit from its use. In addition to its ferruginous properties, it is markedly diuretic.

MEDICAL ASPECTS OF HEAT.*

By MARK W. PEYSER, M. D., Richmond, Va.

The greatest resistance to the inward passage of heat is the skin, but this resistance may be lessened by a combination with moisture, or it may be almost entirely overcome by moisture plus a higher form of energy which is converted into heat by the resistance of the deeper organs and tissues.

The action of heat is manifested by an increased flow of blood, a vasodilatation, an active hyperemia, whereby, even when locally applied, the temperature of distant parts may be raised. There are increased activity of the heart and lungs; in addition, at high atmospheric temperatures, sweating occurs, more carbon dioxide is thrown off from skin and lungs, more oxygen is absorbed, and urea, uric acid and other waste products are thrown off in larger amounts because of diuresis. Blood pressure may be temporarily increased; and pain and spasmodic contractions are lessened through action on the sensory nerves.

For therapeutic purposes, heat may be applied locally or generally.

LOCAL APPLICATIONS: Counter-irritants produce, first, reddening and stimulation of the skin, the vessels of which are dilated by direct action on the nerves. Local circulation increases, and sensory-nerve irritation produces pain. Heart-action is more rapid; blood-pressure is raised through reflex contraction of the blood-vessels generally; temperature of the parts is elevated, and breathing slowed. Finally, unless action is pushed to the stages of vesication and pustulation, pain is relieved through depressor action on the sensory nerves.

Counter-irritation may be applied in the following conditions: 1. Subacute or chronic

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inflammation with or without unnatural growth of parts in direct vascular connection with the skin, as of a bone or joint; 2. Congestion or inflammation in neighboring viscera, as of the lungs; 3. Pain in deep or distant parts, as neuralgias; 4. Spasm or other morbid activity in deep muscular structures, as lumbago and vomiting; 5. Central nervous disturbances, as syncope and hysteria.

Where prolonged or repeated applications of heat are needed, methods other than counter-irritation should be employed.

Heat may be applied locally, dry, by means of a hot iron; the hot-water bag; frictional massage, either manual or mechanical; the Oudin current through a vacuum-tube or metallic brush; diathermy; incandescent electric bulbs; the infra-red rays; carbon ultraviolet lamps; baking apparatus heated by alcohol or gas; or by electric lamps.

The day of the red hot iron in medicine has passed, but heated pokers and flat-irons are occasionally used in the treatment of intractable lumbagoes, sciaticas, and other inflammatory nerve and muscle conditions.

The hot-water bag is soothing, and, as it produces a mild hyperemia, it may be used also to aid absorption of inunctions and other local medicinal applications.

The Oudin, which is a monopolar, high-frequency current, is counter-irritant when not in close contact with skin or mucous membrane. When administered by means of a plated or a vacuum tube, it is used in the treatment of otitis media, some nasal conditions, and various vulval, vaginal, uterine, urethral, prostatic, anal and rectal diseases. Superficial conditions may be treated by means of a flat electrode applied directly or through the hand of the operator who holds the electrode in his other hand.

With diathermy, which also is a high-frequency current, two electrodes are employed, their size, shape and distance apart and time of application being determined by the part under treatment and the condition present. During the passage of this current, electricity is stepped down to heat by tissue resistance, and while a large amount is generated at the contact surfaces, the greatest amount will be found in the interior of the part treated. Laboratory investigations are said to have demonstrated that high-frequency currents can disintegrate calcareous substances. If so, diathermy has a two-fold application in gout, hypertrophic rheumatism and in inflammations with calculi.

Owing to the high heat it generates and the penetrative character of that heat, diathermy is employed in urethritis, specific and non-specific, in cervicitis, endometritis, metritis, rheumatism, synovitis, prostatitis, neuritis, neuralgia, etc.

Gonococci will not reproduce at temperatures above 140° F.; and are said to be killed in 30 minutes at 108° F. In vitro, however, destruction is said to occur only when they are subjected for the same length of time to 140° F. This holds true for staphylococci also; while tubercle bacilli are killed in 20 minutes and streptococci at from 110-125° F. in 30 minutes. A heat from 104° to 107.6° F. has been beneficial in the treatment of chancroids and buboes.

Investigators have reported that a temperature of 140° F. can be obtained with diathermy, but when employing a thermometer in the active electrode, it should be remembered that the temperature registered is that of the surface, not the interior, heat.

Diathermy can be made to play an important role in the treatment of lobar pneumonia in the early stage, not that it invariably or frequently reduces temperature or shortens the course of the disease, but because it relieves the pain and embarrassed respiration and contributes towards a more rapid convalescence.

Cancer tissue, according to Ehrlich, ceases to be viable when subjected to a temperature of 112° F. for thirty minutes; and, according to the New York State Cancer Hospital, cancer cells die when exposed to 116.6° F. for that length of time.

Incandescent electric bulbs are employed singly or in groups in reflectors, cabinets or other containers arranged for the treatment of a single limb or joint or trunk area. The heat so generated is comparatively non-penetrating, but may be made merely analgesic or counter-irritative according to the distance from the part under treatment, the length of exposure, and the type, size and number of lamps. When used in a closed cabinet, the affected part should be wrapped in towelling that will absorb the sweat and so prevent blistering. General sweating frequently occurs as a result of this type of treatment. Though exposure to a single bulb is commonly called

"baking," the term is properly applied to the treatment administered by means of a closed cabinet.

Heat produced by the infra-red rays is next to that of diathermy in penetrative power. Its indications are the same. Favorable results have been obtained from its use in passive hyperemia, synovitis, rheumatism—so-called,—neuralgias, neuritis, etc. It is not necessary to focus the visible rays on the part under treatment.

Local applications of heat may be moist: 1. Plain water at temperatures from 101° F. to 106° F. attract blood to the part treated, being useful for stimulation of the menstrual flow; or from distant parts to relieve internal congestions, e. g., catarrhal conditions, sunstroke, apoplexy, etc.; 2. Medicated waters, e. g., hot solutions of various salts, boric acid, etc.; 3. Poultices, which are seldom clean, and for which the solutions can well be substituted.

Heat may be applied generally by means of water and vapor baths, plain or medicated, air baths and autocondensation.

The tepid bath, at from 85° to 95° F., is cleansing and calmative, lessening the restlessness of fever and lowering temperature.

The warm bath, at from 95° to 100° F. raises local temperature; stimulates local circulation; stimulates the glands, increasing the discharge of such secretions as perspiration and urine; and soothes the nerves and corresponding centers. It is diaphoretic, anodyne and antispasmodic.

The hot bath, at from 100° to 106° F., has the same properties as the warm bath, but in greater degree.

The vapor bath, of which the Russian bath is typical, is applied at from 95° to 110° F., and is much like the warm or hot bath, but slower in action.

Dry heat can be borne at much higher temperatures, that of the hot air or Turkish bath, for example, being as high as 220° F. Cold water is applied following its employment. It is, first, diaphoretic, then stimulant; is soothing and increases metabolism. Its uses are the same as those of the warm water and Russian baths.

In the body-baking apparatus, temperature may be elevated to as high as 400 degrees, harmful effects to the brain being prevented by cold, wet towels to the head (which projects into the outer air), the body being wrapped with Turkish towelling to absorb sweat and thus prevent blistering. With the heart beats accelerated, sometimes up to 160, and the number of respirations in proportion, diseases of the heart and blood-vessels contra-indicate the employment of such very high temperatures. But where not contra-indicated, this mode of treatment is valuable in subacute and chronic rheumatism, ankylosis, general infections, uremia, etc.

A method of administering heat to the bed-fast patient, much more convenient than the baking apparatus, is the electric blanket which can be placed in the bed and snugly wrapped around the patient. The amount of heat generated is not as great, but good results may be expected from its use, while, at the same time, it is safer.

With the cabinet, either vapor or hot air may be administered to the body, the head being protected as when using the body-baking apparatus.

Autocondensation is about the simplest means of applying heat to the whole body, so far as the patient is concerned. Seated on a hinged pad connected to one pole of a D'Arsonval solenoid, the other pole being connected to an electrode held by the patient, the only sensation is that of heat if good contact is being made; otherwise, a sharp prickling will be felt. The heat from this source being more penetrating than that from other sources, the physiological effects are more profound. Indications for its employment are the same as for heat from other sources: Hypertension, with or without arteriosclerosis if uncomplicated by low systolic and high diastolic pressures and myocarditis; rheumatic and gouty diatheses; Bright's, uremia, dysmenorrhea, amenorrhea and the menopause; neurasthenia, insomnia, etc.

Diathermy, of which we have spoken, is the local application of the D'Arsonval current.

Heat may be administered to the body in the form of sun-baths, local or general, but as the heat-rays play a very minor part in the ends sought, these baths will not be discussed.

Penetration of the ultra-violet rays generated by the air-cooled mercury lamp, which is slight, may be much increased by prior or simultaneous exposure to an infra-red ray generator because of the active hyperemia produced by the latter. This aid, however, is unnecessary if the carbon-arc lamp be used,

that apparatus emitting not only the ultra-violet, but the infra-red rays in addition.

Shock after injury, chilling after exposure, or collapse from loss of blood or other conditions, may be successfully combated by general exposure to heat generated by hot bricks or hot-water bottles placed alongside of the patient. Or he may be placed in bed, snugly wrapped in blankets drawn close about the neck, and heat, generated on the floor by alcohol lamps or otherwise, introduced beneath the covers by a pipe; or he may be placed in the body-baking apparatus or wrapped in the electric blanket.

Attacks of epilepsy in which there is toxicity of the blood, urine and sweat have been ameliorated or prevented by the hot-air bath.

Hot sand or mud-baths are used for the cure of rheumatism, paralysis and spasmodic muscle contractures.

Cold when applied to the body, produces some superficial congestion which is quickly followed by rapid contraction of the blood-vessels and lowering of the surface temperature. In the healthy individual, if the exposure has not been severe, there is prompt reaction, the vessels dilating, the heart beating with increased force and frequency, and the temperature rising to normal or beyond. It may be inferred, therefore, that under these conditions, the physiological action of cold resembles that of heat.

Cold is beneficial in two classes of cases: 1. Where it is desired to affect the organs and tissues of the part; 2. Where it is sought to lower general temperature, as in the hyperpyrexia of typhoid and scarlet fevers, and sunstroke, using it as antipyretic.

While cold is tonic and stimulative, reaction being hastened by brisk friction, it is, also, sedative and anodyne, acting by abstracting heat and lowering nerve-conductivity which may be carried on to the stage of anesthesia by freezing. A shower or douche of cold water along the spine is anaphrodisiac, or it may be used to stimulate respiration in narcotic poisoning or to institute it in the asphyxia of the new-born. Poured over the head and neck, cold water acts as an antispasmodic in spasm of the glottis. In chorea, persistent vomiting, and hysteria, it may be used as a douche to the spine. The chordee of gonorrhea is allayed promptly by cold affusions to the penis. Hysterical catalepsy, hysteria major, and convulsions are benefited by douching cold water on the face and mouth. Similar treatment is useful in uterine inertia either before or after childbirth; and the cold, wet hand over the uterus is an excellent aid to the expulsion of the placenta. Post-partum hemorrhage has been successfully checked by ice placed in the vagina. A cold douche to the spine will cause diuresis and set up bladder contraction.

In gouty and rheumatic joints and joint inflammation from other causes; in sprains and myositis; in tonsillitis and pharyngitis, the cold compress affords relief and hastens cure.

The ice-bag plays an important part in the treatment of such conditions as meningitis, encephalitis, headache and delirium; in pericarditis, pneumonia, orchitis, epidydimitis and bubo; and in neuritis, neuralgias and eye wounds.

In infectious generally, when the heart seems to be racing itself to death and the patient is not too asthenic, the ice-bag gives comfort by often reducing both the force and frequency of the organ.

It is claimed that excellent results have been obtained in phlegmasia alba dolens by the application of ice-bags to the affected limb which has previously been wrapped in a cold, wet sheet.

Liquid air has been used in the cure of varicose ulcers and chancroids, and in the relief and cure of sciatica, herpes, and intercostal and facial neuralgia.

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19 *South Boulevard.*

DIAPHRAGMATIC HERNIA OF THE STOMACH—WITH REPORT OF CASE.*

By K. D. GRAVES, M. D., Pearisburg, Va.

Hernia of the diaphragm may be classified as congenital, traumatic and acquired.

Congenital hernia is usually due to faulty development. In the embryo the pleural and peritoneal cavities are continuous. As development takes place the two cavities become separated by a thin membrane which is the

*Read at the meeting of the Southwestern Virginia Medical Society, at Bristol, Va., September 22-23, 1927.

beginning of the diaphragm. This may be arrested at any stage of development, wholly or partially. Where there is only a relatively small defect, it is probably frequently overlooked, and may not cause symptoms.

Traumatic hernia is caused by such a wound as a stab or gunshot, or some crushing injury.

Fig. 1.—Before operation. Stomach filled with barium meal.

Acquired hernia is due to a weakness, usually in one of three locations, viz.: (1) the foramen of Bochdalek, between the attachment of the diaphragm to the 11th rib or spine; (2) the foramen of Morgagni, between the attachment of the diaphragm to the cartilage of the 7th rib and sternum; and (3) at the esophageal opening. Acquired hernia may be due to an injury or some strain, although it is doubtful if this alone could cause hernia unless there were present already a weakness of one of the areas mentioned.

Following are a few references to cases of hernia of the diaphragm, which will show its relative frequency:

The Mayo Clinic[1] reports one case of diaphragmatic hernia in every 23,000 patients examined, having had twenty-one cases from 1908 to 1923.

Friedenwald and Feldman[2] report six cases, all in women between the ages of forty-one and sixty-two years, and all being through the esophageal opening.

Morrison[3] reported an X-ray study of diaphragmatic hernia on forty-two cases out of 3,500 gastric cases studied.

Rowlands[4] reported that in Guy's Hospital, from 1856 to 1920, only two cases were recorded, both traumatic.

The usual symptoms complained of in the above cases as recorded were pain, nausea, vomiting, distention, constipation, dyspnea, dysphagia, abnormal sensation in the chest, any of the above or most of them being often present, but not essential to the diagnosis. One said the stomach felt lifted up; another, that he felt as if the lung rubbed on a bag of air on inspiration. A rumbling noise in the chest as high as the nipple line was mentioned by another.

In the Mayo Clinic series referred to above,

Fig. 3.—Six months after operation. No improvement noted.
Editor's Note.—It was necessary to place Fig. 3 ahead of Fig. 2 on account of the size of illustrations.

operation was performed in thirteen of the twenty-one cases. Ten patients survived the operation, of whom nine have been traced. Six of these were living and well in 1923, although it was not stated how much time had elapsed since the operation. At the Mayo Clinic the condition most closely simulating hernia of the diaphragm was eventration of the diaphragm.

The case I wish to report, Mrs. M. G., came in for examination July 3, 1926. She is white, married, aged twenty-eight years. She had not felt entirely well for about seven years since an attack of "flu." She complained of pleuritic type of pain in the right side of chest, anteriorly, about level of 4th rib; general weakness and nervousness; stomach distress of two days' duration; epigastric pain, and nausea without vomiting. Her history was not significant, except that she had lost thirty-five pounds in weight in the last six months. She had been an elocution teacher, and prided herself on her five inches of chest expansion. There was no cough, expectoration, hemoptysis or night sweats.

Physical examination was practically negative except that the patient was pale and harassed looking, and very frail. The chest was negative except that some doubtful rales were heard in the right apex above the 3rd rib. Blood, urine, sputum and Wassermann tests were all negative. No irregularity of pulse

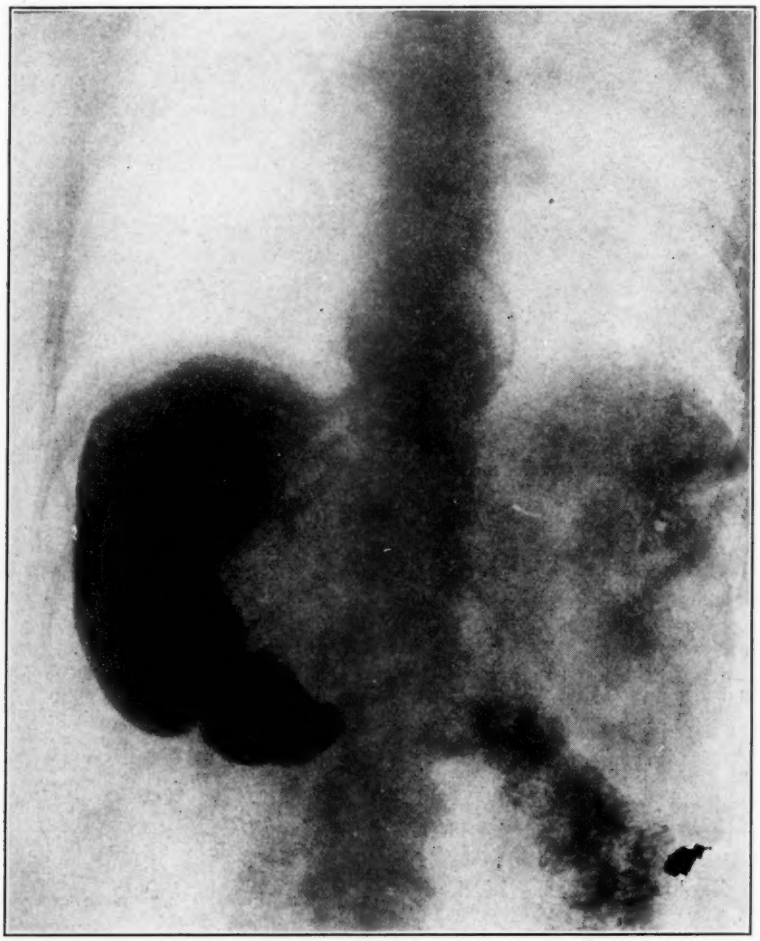

Fig. 2.—Before operation. Stomach emptying. The outline of the herniated portion of the stomach may be noted.

or temperature was noted. Sinuses negative on transillumination.

The X-ray of the chest was negative, except there was considerable hilus involvement, and some calcified glands.

The X-ray examination of the stomach was as follows: after barium meal, in standing position, the substance showed no delay in passing through the esophagus; and spread normally down the wall of the stomach to the pylorus, filling this. The duodenal bulb filled normally. No ulcer or filling defect was noted.

When patient was placed in reclining position a mass the size of a tangerine was noted below and to the right of the mediastinum. Upon pressure on the stomach, this could be forced up to the level of the third rib. It appeared to extend from and be continuous with the stomach shadow; and by rotating the patient it was determined that it was a portion of the stomach extending through the esophageal opening of the diaphragm. After this portion of the stomach in the chest was filled, if the patient was again placed in the standing position, the outline of the tangerine-like mass was noted in very much the same location, although only the bismuth which adhered to the stomach wall showed up, most having

Fig. 4.—Same as 3. When emptying, the herniated portion of stomach shows a tendency to withdraw from diaphragm instead of remaining attached as in Fig. 2.

drained out. In other words it appeared that the herniated portion of the stomach was not reduced by standing, but simply would not fill unless patient was lying down.

The patient was operated on by a surgical consultant, who confirmed the diagnosis. A portion of the posterior wall of the fundus of the stomach extended up through the esophageal opening. This was drawn back down into the abdominal cavity, and the hiatus closed with several rows of kangaroo tendon.

The symptoms returned in a few months after operation, and Figures 3 and 4 show the stomach seven months after operation. She has refused another operation, and her present condition is just about as it was before, except that she now suffers with rather severe pain in the lower left chest, and is being treated for pleurisy by her family physician.

I wish to express my appreciation to Dr. J. T. McKinney, of Roanoke, Va., and to Dr. J. D. Camp, of the Massachusetts General Hospital, Boston, for their very kind assistance in commenting on my films in this case.

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SIGNS AND SYMPTOMS OF MASTOIDITIS PARTICULARLY AS INDICATING SURGICAL INTERFERENCE.*

By WM. C. MOOMAW, M. D., Petersburg, Va.

This paper is presented because the writer was requested to "read a paper" and not because of any loquacious tendencies in this direction; hence, any praise or punishment should be addressed to the program committee.

I wish to thank Dr. Wright Clarkson for his films and for his discussion.

It would at first appear late in the season to discuss mastoid conditions, but the summer months are by no means free from nose, throat and ear infections, complicated by an extension of such infection into the mastoid "cavern". Patients given to the amphibian call often bring their aquatic sports to an abrupt focus at the end of an ear speculum. In the large coast cities the ear clinics are often filled on Monday afternoons during bathing season. It is gratifying to know that we have advanced far enough in a knowledge of ear infections not to make the error of informing these patients that probably the water in which they swam was polluted. We now know that these patients are hosts to foci of infection in the mouth, throat and nose, and that a cough or a sneeze or blowing the nose after submergence is sufficient to drive infectious material through the eustachian route to the tympanic cavity. The patent devices sold to swimmers for the purpose of plugging up the external auditory canal will in no wise prevent these infections.

Before entering into a discussion of the signs and symptoms of surgical mastoids, permit me to say that the treatment of mastoid cases has not as yet been brought up to a sufficiently high and commendable level of standardization. It is a firm conviction, based upon some little experience in treating mastoid cases, that entirely too many mastoids which are within safe limits of resolution and restoration, are consigned to surgical interference, subjecting the patient to needless anguish and expense. This is not an imputation. The fact, I believe, is deeply imbedded in the further fact that diagnosis of mastoid states has not been clearly worked out and standardized in individual minds. There are too many loose ends between pathology and diagnosis. To be explicit, the variance lies, probably, in the failure to differentiate definitely between what some otologists term *mastoiditis* and *mastoid abscess*. This classification is important because it draws a more or less fixed line between non-surgical and surgical mastoids.

What is the difference between the two? I desire to quote from a standard text-book because of the clarity and conciseness of statement. "The first stage of the involvement of the (mastoid) cells is a congestion and exudation of serum which may extend throughout the mastoid or be limited to a part of it. In this stage there is no breaking down of the septa of the cells. Politzer has shown that there are communications between the cells through which the process readily extends. The lining of these pneumatic spaces is a modified muco-periosteum, but it is capable of great

*Read before the Tri-County Medical Society, at Petersburg, Va., June 16, 1927.

inflammatory reaction. If a mastoid is opened, which is in this stage of inflammation, no pus will be found, but the cells will be red and filled with serum which is more or less tinted with blood. Following this stage with more or less rapidity, according to the activity of the process, is the formation of pus. If such a mastoid be opened, the cells will be found filled with pus *but the septa seem intact.* In the third stage *the septa break down and granulations are formed which are not osteoblastic in nature.* One occasionally opens a mastoid where granulations have formed in cells with intact walls. They may be found in a part of the mastoid only, usually that part furthest from the antrum, while the rest of the mastoid is in any of the stages above described. They are no doubt osteoblastic in nature and represent an effort at repair and limitation of the process by formation of new bone. When they occur in a mastoid in which the remaining pneumatic spaces are filled with serum, it doubtless indicates that the condition is either in process of, or capable of, resolution. After the septa between the cells are broken down and an abscess formed, the pus exists in sufficient amount to render drainage through the tympanum practically impossible, no matter how large the defect in the membrana tympani. Besides the process is of such nature that the breaking down of bone seems to be a part of it. So, as this pus accumulates it comes to the confines of the mastoid process and ruptures through them". Herein is clearly set forth the *two zones* in mastoid pathology, *mastoiditis* and *mastoid abscess*, which are indicated, as we shall presently attempt to show, by definite and dependable signs and symptoms.

There is a striking parallel between the pathology of acute mastoiditis and the pathology of acute nasal sinusitis, and be it said that rhinologists have worked out a wider and more conservative margin between sinus pathology and treatment than have otologists in the management of mastoids. In either case we have a cell-partitioned cavity in close proximity to vital structures; these cells, large and small, are lined with a modified mucosa—a muco-periosteal membrane,—covering bone. In either case, mastoid or sinus, the cavity is provided with drainage, good or bad; either cavity is subject to infection by practically the same group of organisms and the supervening pathology in either case is practically the same, and the signs and symptoms indicative thereof are in either case sufficiently clear to guide the trained observer to the proper measures of relief. Unfortunately, when it comes to treatment of these two entities, this parallel gives way to widely diverging lines of procedure.

Keeping clearly in mind the pathological distinction between a mastoiditis and a mastoid abscess, let us now ask, what are the signs and symptoms of mastoiditis indicating surgical interference?

Obviously, we shall not refer to such glaring signs and symptoms as subperiosteal abscess, indicating rupture through the mastoid cortex; nor to the intra-cranial pain and pressure symptoms, indicating rupture through the inner plate; nor to the blood changes and wide temperature curves, indicating a sinus thrombosis; these are so manifestly indicative of a surgical mastoid that they need not enter into the discussion.

First, what are the symptoms and signs of simple or non-surgical mastoiditis? Briefly, they may be stated as: 1. Tenderness on pressure; 2. Discharge, in quantity known to be in excess of that which could arise in the tympanic cavity; 3. Pain, which is usually exaggerated at night; 4. Temperature of moderate degree and rarely exceeding 101 or 102; 5. Fundus changes, as indicated by redness of the external canal wall, and sagging of the upper posterior wall particularly in the region of Shrapnell's membrane which overlies the mastoid antrum; 6. The X-ray-graph, which would show the septa of the cells still to be intact. These are the principal signs and symptoms of mastoiditis.

Now, what departure from or modification of these symptoms could be safely interpreted as indicating that resolution of the inflammatory process is not taking place, and that, therefore, the mastoid had passed over to the surgical stage?

It must first be assumed that the best possible drainage had been obtained and maintained through an adequate opening in the drum membrane. *The spontaneous rupture through the tympanum is usually not sufficient*, and the external canal *must be cleansed*, preferably, I find, by carefully regulated irrigations in addition to local treatment.

The evidence of a surgical mastoid must be drawn from a symptom-group. It is the group

picture which is of value, rather than any one symptom taken separately. In a word, the picture is this: *Increasing tenderness on pressure, persisting pain and temperature with a diminishing or interrupted discharge, and with a breaking down of the cell walls as evidenced by the X-ray film.*

Persisting pain and tenderness are especially significant when coming on late in the process, or returning after a lapse of these symptoms. It must be kept in mind that these signs and symptoms are often inconspicuous or even lacking in instances of streptococcus capsulatus infections.

If the temperature rises consistently above 102° F, look for the cause of it elsewhere in the body. Mastoid temperature, per se, rarely exceeds this.

The above signs and symptoms undoubtedly indicate that the inflammatory process is still active, that the drainage is inadequate, and that resolution is not and likely will not take place. Confronted by this syndrome, one would be justified in opening up the mastoid process. There are other minor symptoms, such as fundus findings, and a thickening and characteristic "feel" of the mastoid covering due to involvement of the mastoid cortex, but these are not constant.

At this stage of an involved mastoid, otologists generally have come, I believe, to rely greatly upon the evidence as brought out by the X-ray report. At this doubtful stage the question which surges to the fore is, "Are the cell-walls breaking down—is there bone destruction?" This question correctly answered should assist the surgeon to a safe decision as to what the further treatment must be.

It is needless to remind you that a continued discharge extending over a two or three weeks' period, and in the absence of infected tonsils, adenoids or sinus infections, usually indicates a surgical mastoid; but be sure we are not dealing with a pus adenoid or a pus antrum.

14 *Marshall Street.*

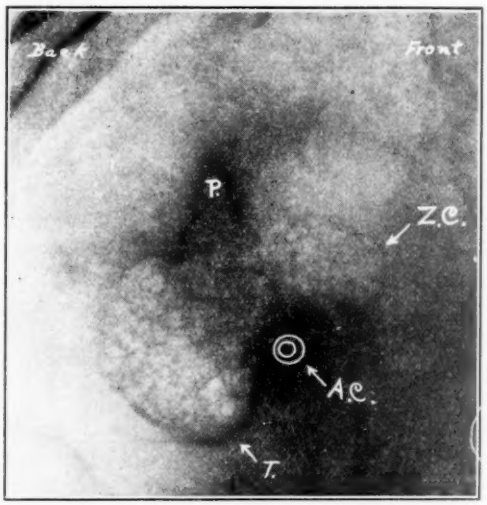

Fig. 1.—A normal mastoid with numerous cells extending forward into the zygomatic area. P., pinna of external ear; Z. C., zygomatic cells; A. C. auditory canal; T., tip of mastoid.

Discussion

Dr. Wright Clarkson, *Petersburg, Va.*:—Doctor Moomaw has very kindly asked me to discuss this paper and to show you some slides demonstrating the differences between the surgical and non-surgical mastoid as revealed by roentgenograms. He has forcibly presented to you the cardinal points which must be taken into consideration in arriving at a definite decision as to the advisability of an operation. This decision must always be made by the otologist, and the X-ray must be taken as only one of the phenomena to be considered. However, as I am going to endeavor to demonstrate to you, it is an extremely important measure in helping to make this decision and furthermore, regardless of whether an operation is contemplated or not, the otologist cannot be considered as having given adequate care to his patient with suspected mastoiditis until a thorough roentgen exam nation has been made.

Infections with the streptococcus capsulatus cause practically no pain or tenderness and the process usually advances to a hopeless stage before the physical signs become definite.

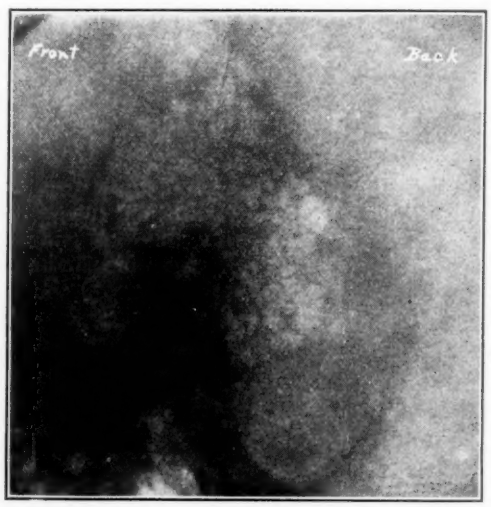

Fig. 2.—An infected mastoid at an early stage. The cells in the tip and overlying the knee of sinus are infected and, at present, the remaining cells are clear. Note that more than half of the mastoid cells in this case are located above and in front of the auditory canal.

In cases of infection of the external auditory canal not attended with a very definite furunculosis, the surgeon is likely to incise the ear drum, spreading the infection to the middle ear and mastoid. A roentgenogram should clearly demonstrate that these structures are not involved.

In definite middle ear infections, it is extremely important in the beginning to know whether or not the mastoid cells have been involved, for when the ear drum has been properly opened and the roentgenogram clearly demonstrates no infection of the mastoid cells, it is reasonable to believe that irrigating the ear is likely to force the infection

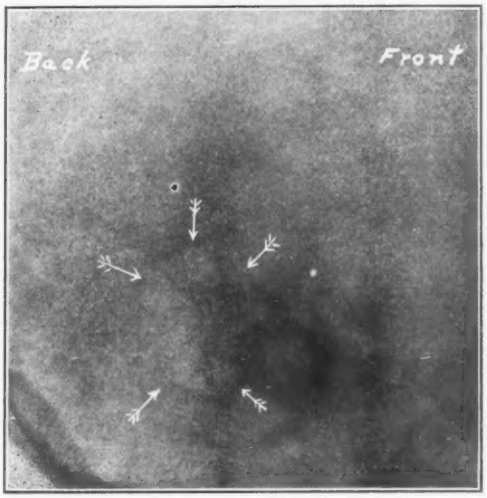

Fig. 3.—Mastoid abscess. Note that all of the cell walls are broken down and the large area formerly occupied by mastoid cells now consists of a large pocket of pus.

into the mastoid, and I therefore, doubt the wisdom of irrigation in these cases.

Taking for granted that a certain mastoid is definitely surgical, we still need a roentgenogram to ascertain the extent of the mastoid, for as shown in figure 1, the mastoid cells often extend up into the zygomatic area and it is impossible to determine this without a roentgenogram. In fact, sometimes there are more cells just above and in front of the auditory canal than there are in the mastoid portion of the temporal bone, as is clearly demonstrated in figure 2. All of us who have worked in conjunction with otologists who disregard routine roentgen examinations have been called on frequently to X-ray acute mastoids for infected cells that were overlooked at the time of operation, and sometimes these cases terminate fatally. Therefore, I ask, are we justified in ignoring routine roentgen ray examinations in any suspected mastoid case?

The roentgenologist should endeavor to be definite in his statement as to the presence or absence of bone destruction, for as Doctor Moomaw states very clearly, this is of vital importance in assisting the otologist in making his decision relative to the advisability of an operation, but the roentgenologist is not justified in stating this alone, for the other points outlined above are of vital importance and will not be ignored by those who are making an honest effort to do their duty to their patients.

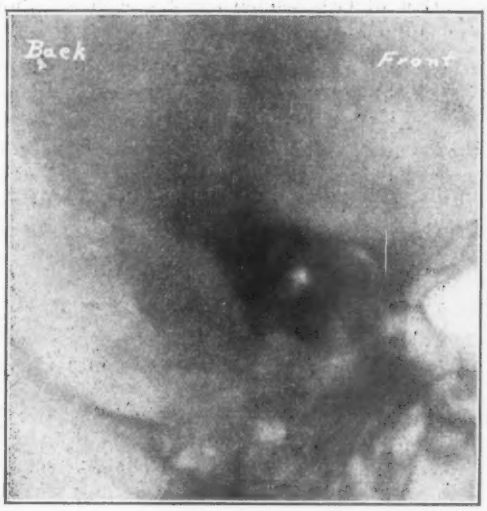

Fig. 4.—Sclerotic mastoid. Note no mastoid cells can be seen. This is the result of an old chronic mastoiditis, all of the mastoid cells having been gradually obliterated and replaced by dense bone.

SYPHILIS OF THE EYE.

By C. A. YOUNG, M. D., Roanoke, Va.

Syphilitic affections of the eye may be congenital, hereditary or acquired, and when acquired may be present as a primary, secondary tertiary or parasyphilitic lesion.

None of the structures of the eye are immune to syphilis, the crystalline lens not excepted.

Syphilis is responsible for from 6 to 15 per cent of all cases of blindness.

Harman[1] states that syphilis is accountable for more cases of blindness than any other single infection.

Rasquin[2] presents statistics to show that syphilitic patients discovered by ocular signs are not known to be syphilitic in 57 per cent of men and in 87 per cent of women.

The eye manifestations of syphilis of the eye are due to the spirochaeta pallida or its toxins. Collins and Mayou[3] state that up to the present time spirochaeta pallida have been found in primary chancre of the eyelids and conjunctiva, in the aqueous, in acute iritis, and in the cornea of syphilitic infants.

Sadek[4] reports seeing forty-eight cases of primary syphilis of the eyelids or conjunctiva in the inhabitants of several Egyptian villages. The patients had been treated for various eye conditions by licking with the tongue by one

or other of two women quacks, each of whom was suffering from syphilis.

Gerschun's[5] patient had a chancre of the lid due to the removal of a foreign body by the tongue of a fellow workman.

Fournier[6] treated five cases of chancre of the eye among his medical colleagues, the infection being transmitted in each case by the patient coughing or spitting, while having the throat examined.

DeSchweinitz[7] reports the case of a physician who developed a chancre of the bulbar conjunctiva as a result of some secretion entering his eye, during attendance on a case of parturition.

Interstitial Keratitis.—Syphilis is the cause in about 70 per cent of the cases, usually due to inherited syphilis, and when caused by inherited syphilis is always bilateral. When due to acquired syphilis it is often unilateral.

Iritis.—Syphilis is the cause in about 50 per cent of the cases, generally unilateral, but the other eye becomes affected in about 25 per cent of the cases.

Parsons believes specific iritis to be a sign of severe syphilis and quotes Trousseau's findings that thirty-four out of forty patients having specific iritis ultimately developed grave sequelae such as tabes and general paralysis. Three to four per cent of all syphilitics have at some time specific iritis.

Chorioditis and Retinitis.—Acquired and hereditary syphilis is the most frequent cause, usually bilateral and associated with fine vitreous opacities.

Papilloedema or Choked Disk.—Uhthoff[8] found cerebral syphilis to be the cause of choked disk in 12 per cent of the cases; therefore, if in a case of choked disk no cause is found and decompression is not indicated, the patient should be given active course of mercury and iodides.

Primary Optic Atrophy.—Syphilis in the form of tabes and progressive paralysis of the insane is the most frequent cause. Primary optic atrophy is always bilateral and treatment offers very little hope; mercury should be used in the form of inunctions before giving arsenical preparations.

Gifford[9] seemingly obtained good results from the injection of mercury or neosalvarsan into the cisterna magna or the anterior horn of the lateral ventricle.

Viner and McMurtry[10] report two cases of arrest of luetic optic atrophy by cisternal injection of mercury.

Hume[11] treated three cases of tabetic optic atrophy by cisterna magna injection of mercury but obtained no definite results.

Optic Neuritis.—Syphilis is the cause in about one-third of the cases. In Newman's[12] clinic in Berlin, it has been shown that 81.9 per cent of infants suffering from hereditary syphilis have optic neuritis. Mercury again in the form of inunctions should be used before giving arsenicals.

Ocular Muscle Palsies.—Syphilis is the cause in at least 50 per cent of the cases having a paresis of the extra- and intra-ocular muscles.

Unilateral Exophthalmos.—Both hereditary and acquired syphilis are at times the cause of exophthalmos, showing the usual signs of an orbital tumor. In all cases of unilateral exophthalmos in which the etiological factor is not known, the patient should be given intensive treatment with mercury and iodides.

Argyll Robertson Pupils.—Pupils which react to convergence but fail to react to light are seen particularly in tabes dorsalis, paretic dementia and syphilis. Pupils that are unequal in size and oval (in the absence of posterior synechia, rupture of the sphincter border, etc.) are even more suggestive of syphilis than Argyll Robertson pupils.

Tarsitis is usually syphilitic in origin. Scleritis, inflammation and induration of the lacrimal gland, and orbital periostitis are at times due to syphilis.

Sympathetic Ophthalmia.—Syphilis is not the cause of sympathetic ophthalmia, but does produce a type of iridocyclitis that is easily mistaken for sympathetic ophthalmia. While at Wills Eye Hospital, I saw several such cases,—one in particular, I remember very vividly. A young girl came into the hospital with a marked iridocyclitis of the left eye with many large precipitates on the posterior surface of the cornea. She gave a history of an injury of the right eye one year previously. Some weeks following the injury, the right eye was enucleated. Not knowing the surgeon who removed the eye, it was thought that a portion of the posterior pole of the globe might have been left in the orbit. The orbit was immediately opened and the optic nerve found showing a clean stump with no sclera or choroid attached. The Wassermann proved to be

positive and with appropriate treatment the left eye rapidly cleared with good vision.

Conclusions

1. Syphilis is an ever present possibility in eye disease and is capable of attacking any of the structure in and about the eye.

2. Inunction is the best method of giving mercury in syphilitic eye conditions, empiric but true.

3. In eye diseases due to syphilis, precede arsenicals with a course of mercury, preferably by inunctions. Duane states in Fuchs' Textbook of Ophthalmology—"The optic neuritis occurring in syphilitics after the use of salvarsan is not to be ascribed to the toxic action of the latter, but to the liberations of spirochaetae or their toxins. Such a so-called neuro-recidive is avoided if mercury is given with or before the salvarsan."

4. As a number of these conditions are the result of tertiary and hereditary syphilis, it is imperative that syphilis be cured during its early stages.

5. Exclude syphilis, particularly in orbital tumor, unilateral exophthalmos, suspected sympathetic ophthalmia and brain tumor.

6. Otolaryngologists and obstetricians should recognize and take proper precaution against accidental infection of the eye with syphilis.

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Gill Memorial Eye, Ear and Throat Hospital, Department of Ophthalmology.

DIATHERMY IN THE TREATMENT OF GONORRHOEAL COMPLICATIONS.

By JACOB S. ROSENTHAL, B. S., M. D., Washington, D. C.

Gonorrhœal complications in the past have been subjected to many types of treatments, the success of which left many men in doubt as to the value of any one treatment over the preceding one just discarded. The most common of these complications are epididymitis and prostatitis, the former occurring in from twenty to thirty per cent of all cases particularly in dispensary practice. Prostatitis occurs in practically all cases where the patient has delayed several weeks before consulting a physician.

Much time and study had been given to these conditions, but it was not until 1906 that Hagner published his paper on epididymotomy as a treatment for gonococcal epididymitis. This paper was followed by the papers of others who had made advanced studies of this complication, Belfield in particular. As a result of these papers, epididymotomy became a more or less common procedure in cases of epididymitis handled by urologists and some of the general surgeons. For a number of years this offered the only means of rapidly terminating this condition. In 1923, Corbus and O'Connor read a paper on the use of heat produced by diathermy in the treatment of gonococcal endocervicitis. The results of these treatments were so satisfactory that they were tempted to try diathermy as a means of treatment of epididymitis.

The diathermy clamp for treating epididymitis, as devised by Corbus, consists of a pair of curved arms, one of which is movable. To the outer end of these arms are attached slightly concave, metallic discs, which are about four by five centimeters in measurement and made adjustable to fit more accurately the testicle and the inflamed epididymis. Lead wires are attached to these discs along the fiber arms of the clamp, and from thence to the generating machine.

The results from the use of diathermy have been excellent in this condition; my own experience has been that it is the method of choice as it involves less pain, less disability, no hospitalization, and little or no economic loss because of inability to work during the existence of this condition. I am firmly convinced that epididymotomy as a treatment for gonococcal epididymitis is now obsolete and the more astute urologists will gradually be weaned from the operation that has had such a following in the past. There is no longer any excuse for having a patient remain from several days to a week or more in a hospital, when he can be given almost immediate relief from pain (quicker than with an epididymotomy), and a subsidence of the swelling in practically one-half of the time.

In cases of prostatitis with symptoms of pain, urgency and frequency of urination, and where the tenderness is such that massage is impossible, results can be achieved by diathermy much more quickly than with rectal irrigations or any other form of heat applications. After these treatments for several successive days, the usual massage treatments may be given. I believe that early diathermy treatments will prevent the formation of prostatic abscesses, since the treatment either kills outright, or greatly attenuates, the gonococcus.

Application.

In epididymitis the patient is placed upon the table and the affected parts along with the suprapubic region exposed. The surfaces where the electrodes are to be placed are moistened with soap lather, and the electrodes are so placed as to cover both testis and epididymis. In place of the Corbus clamp, one may use plain metallic discs about two inches in diameter, placed on opposite sides of the testis and epididymis, and achieve the same results, though the electrodes in this case will have to be held throughout the entire procedure—a somewhat tiresome task. After the electrodes are in place, the current is gradually turned on and increased to the point of discomfort for the patient; it is then reduced to a comfortable point and held there. The length of the treatment depends upon the judgment of the operator; I use fifty-five minutes though the time may be either increased or decreased for any given case, but in no case should it be less than forty minutes. Four to six treatments on successive days are ample for any case.

In prostatitis of the type mentioned, I make use of an abdominal inactive electrode about three and one-half by seven inches. This is covered by felt padding which is well soaked before being applied to the patient. The patient is placed upon the table and, the knee crutches being well raised, the knees are placed in the crutches and the table is elevated to the point of most convenience for the operator. The back of the table is then elevated to the point of most comfort for the patient, and the abdominal electrode placed in position and connected to the machine. The perineal electrode is a round flat disc two inches in diameter. This is placed in position on the previously soaped perineum over the prostate, the center of the disc being placed over the most tender point.

To direct the heat downward the patient may be made to lie down upon the inactive electrode and in a few cases it may be desirable to use a belt inactive electrode. This latter is easily made of thin sheet lead, three inches wide and of sufficient length to girdle the abdomen.

The current is then turned on and gradually increased to the point of tolerance, or the bulb of a thermometer may be slipped in between the perineal electrode and the skin surface. A temperature of 110 degrees Fahrenheit is sufficient and in many cases will be as much as the patient will stand. The time of treatment varies from thirty minutes to one hour, forty-five minutes being the average. The current is decreased gradually at the end of the treatment. There may be some discomfort after the first one or two treatments, this I believe being due to a mixed infection in which other organisms may be stimulated by the increased heat. It is, however, of no moment, and is rather mild. The use of rectal prostatic applicators in this type of case seems illogical on account of the pain of introduction of the applicator.

The following cases in which diathermy has been used indicates the average of what one may expect in its use:

Case 1. A. P., age 33, office worker. Under treatment for chronic gonococcus infection, and developed a left gonococcic epididymitis. The patient had been given the usual treatment of rest in bed, ice-bags and ointments;

after a week had elapsed, the patient was allowed up and the ointment treatment continued for another three weeks. He was then referred to me for diathermy. There was some pain and marked swelling. Patient was given one treatment of fifty-five minutes. He left the next day on an extended automobile tour and was not seen for six weeks, when the swelling and pain had completely disappeared.

Case 2. E. R. H., age 27, expressman. Patient first seen with a marked prostatitis; after the second massage he developed a right side epididymitis. After a fifty-five minute application of diathermy he was relieved of all pain and with the help of a jock-strap remained at work. After the third treatment the swelling had disappeared.

Case 3. R. L. S., age 25, truck driver. Patient first seen with a left epididymitis of nine days' duration. Diathermy was used fifty-five minutes, after which pain was markedly diminished and some reduction was noted in the swelling. Patient was given a jock-strap to wear, and two additional treatments were given on successive days; on the fourth day pain and swelling had disappeared from the affected part.

The above results are typical of a number of cases of epididymitis treated. In no case so far has it been necessary to give more than four treatments, and cases numbers 2 and 3—hard working men—show what results may be expected from patients doing hard work and kept on their feet during the treatment.

The following cases of prostatitis are typical of the results that may be obtained from diathermy in those where pain is so marked that prostatic massage is impossible, and where, heretofore, reliance had to be placed upon hot rectal irrigations and opium suppositories to allay the pain and reduce inflammation.

Case 1. P. K., age 25, bookkeeper. Patient had been under treatment by a general practitioner for over three weeks and, in spite of the treatment received, developed a prostatitis which rapidly grew worse. At the time this patient was referred, pain was continuous, with urgent urinary symptoms and a frequency of about every thirty minutes day and night. Patient was given a diathermy treatment with the perineal electrode registering 110° Fahrenheit for one hour. Patient experienced considerable relief, and at the fourth treatment pain and urgency were markedly diminished and the frequency diminished to three hours. At this time massage and irrigations were instituted without difficulty.

Case 2. H. D., age 34, salesman. Patient referred by physician for diathermy on account of the severity of the prostatic symptoms. Massage and other treatments were discontinued on account of extreme pain. Rectal irrigations of hot solutions were of little value. This patient was given four treatments on successive days, when he was returned to the physician for regular treatment.

The latter case is of interest since this patient had mild reactions after the first two treatments. The duration of the prostatitis in this case was over months. The physician who referred this case was practically sure of a mixed infection, and it is to this that I ascribe the reaction.

Other complications that are best handled by diathermy are lymphangitis, funiculitis, and venereal warts complicating gonorrhoea. The first two may be handled by disc electrodes placed at the extremities of the affected areas, and the current applied as in the treatment of epididymitis. In the case of venereal warts, any sort of inactive electrode may be used, the active electrode consisting of a needle which is plunged into the wart. This latter requires the use of an anesthetic, and novocain, or tutocain, in one per cent strength serves admirably.

In conclusion, I would state again that diathermy is the method of choice in the treatment of the above mentioned conditions, and its use will increase as its value becomes more generally known by the profession.

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STERILITY IN THE FEMALE: ITS ETIOLOGY AND TREATMENT.*

By ARTHUR S. BRINKLEY, M. D., Richmond, Va.

Statistics show that about ten per cent of marriages are without offspring, and the proper impression is, especially among laymen, that sterility is nearly always due to some defect or disorder in the genital organs of the woman. As a matter of fact the woman receives almost altogether the blame for the inability to produce offspring. In many cases

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the defect is with the woman, but in many cases this blame is placed unjustly. If we exclude from the definition of sterility those cases in which the failure to produce offspring is due to early abortions, or prevention of conception, then sterility is in a large proportion of the cases due to the husband. Gross found the male directly in fault in sixteen per cent of the cases of sterility, and DeSinty in twenty-five per cent. In that large class of cases in which the immediate cause of the sterility in gonorrheal inflammation involving the tubes and ovaries, the primary cause usually lies with the husband, and on him must rest the blame for a childless home.

In order to assist in determining the exact cause of sterility in the various cases, it is well to consider what is necessary that a normal pregnancy may take place. It is necessary ordinarily (a) that a healthy spermatozoa be deposited in the vagina, (b) that the spermatozoa remain healthy and penetrate into the uterine cavity and into the Fallopian tubes, (c) that a healthy ovum be formed in the ovary, (d) that the ovum finds its way into the Fallopian tube where it can be fertilized by a spermatozoa, (e) that fertilized ovum pass into the uterus, and (f) that it find an endometrium suitable for its implantation and development.

It is not always absolutely necessary to have all the foregoing conditions present for conception to take place. Several cases have been reported with labor at term in patients where both Fallopian tubes and presumably both the ovaries were removed but, of course, some ovarian tissue was left. Quite often both tubes are removed and still the openings in some cases, without doubt, reopen and permit the ovum to pass. Fritsche ligated both Fallopian tubes with silk in the middle and still pregnancy followed three years later. Ashton reported the occurrence of pregnancy in the cervix following the removal of the body of the uterus for fibromyomata, showing that even the body of the uterus was not absolutely essential to pregnancy. Again, pregnancy has occurred in cases where penetration of the male organ into the vagina was impossible, proving that the spermatozoa may pass from the external genitals up to the uterus. One of my colleagues told me of a case that came under his observation several years ago. The patient stated that she had missed three periods but she had never had successful intercourse with her husband. Upon examination an unruptured hymen was found which was markedly thickened and with a crescent shaped opening which would barely admit the tip of the little finger. The hymen was excised under local anesthesia and on bimanual examination, she appeared to be between three or four months' pregnant. She went to term. These are exceptional cases and usually each of the conditions mentioned is a distinct bar to pregnancy.

The husband proven to be virile, sterility may be due to the following causes: Some condition interfering with coitus, such as imperforated hymen, organic stenosis of the vaginal orifice caused by hyperesthesia usually due to vulvitis or vaginitis, simple inflamed abrasions about the vulva, venereal sores, gonorrheal inflammation, non-specific forms of inflammation of vulva, vagina or cervix, inflammation of the uterus (acute or sub-acute), inflammatory lesions of adnexa, retrodisplacement of uterus, bladder or rectal diseases.

Lacerations of Pelvic Floor: When there has been marked laceration, the vagina may be so relaxed and patulous that the semen is not retained in contact with the cervix long enough for the spermatozoa to pass up into the uterine cavity.

Vaginitis or profuse discharge in the vagina may interfere chemically with the vitality of the spermatozoa or mechanically with their progress to or entrance into the cervix uteri. In either case the chance of pregnancy is diminished.

Some Obstruction in the Cervical Canal: Stenosis of the external os. This may be found in the form of the congenital "pin hole" os or it may be due to scar tissue resulting from former injuries. Stenosis at the internal os may be due to scar tissue, but it is more frequently caused by a sharp anteflexion of the cervix. It is often combined with a long pointed cervix and the "pin hole" os already mentioned. This combination is a frequent cause of sterility in women who have never been pregnant, and it is usually accompanied with dysmenorrhea. There may be in the cervical canal an excessive discharge or secretion which interferes with the spermatozoa on their journey upward.

Kurzrok and Miller, of the Columbia University College of Physicians and Surgeons,

New York, in an article entitled, "Biochemical Studies of Human Semen and the Mucin of the Cervix Uteri," appearing in the April, 1927, issue of *Experimental Biology and Medicine*, and which was abstracted in the *Journal of the A. M. A.*, May 28, 1927, pointed out that the plug of mucus filling the cervical canal and the external os is very viscous and adhesive, and when pulled away from the cervix it forms a slimy string which is broken with difficulty. In cases that do not present pelvic pathologic changes the mucus is semi-transparent; when there is a lesion such as an infection, laceration eversion or erosion, the cervical mucus tends to become mucopurulent in character and more adhesive. The mucus plug consists largely of a mucin and water. It presents, unless altered, a considerable barrier to the passage of spermatozoa. According to their statement, semen exerts a highly specific lytic action on the mucin of the cervix. The solvent effects appear to be enzymic in character.

The substance responsible for this action is thermolabile, as enzymes are; and it does not depend on the presence of the spermatozoa. Tests made with mucus from a patient with a leucorrheal discharge due to a lacerated cervix, and from one with acute gonorrhea, indicated that the digesting action of normal semen is markedly diminished or stopped by the presence of pus in the mucus. They believe that the lytic substance of the semen may be an important factor in the passage of spermatozoa up the genital tract, and that its absence may be an etiologic factor in some cases of sterility in which no explanation has heretofore been offered.

It has also been shown recently that acidity of the normally alkaline uterine mucus quickly destroys the spermatozoa and thus may be the cause of sterility.

Some Displacement of the Uterus: Retrodisplacement of the uterus may throw the cervix so far forward that the spermatozoa do not readily enter it. Sharp anteflexion may also throw the cervical opening too far forward. Prolapse of the uterus may interfere mechanically with coitus or with the passage of the spermatozoa to the interior of the uterus.

Some Abnormal Condition Within the Uterine Cavity, which interferes with the passage of the spermatozoa to the tubes or which fails to furnish a proper place for the implantation and nourishment of the fertilized ovum (a) Hyperplasia of endomentrium, (b) infected endometritis, (c) tuberculosis of the endometrium, (d) malignant disease (carcinoma or sarcoma), (e) fibromyoma.

Some Affection of the Fallopian Tubes, which interferes with the entrance of the ovum into the tube or with the passage of the fertilized ovum from the tube into the uterus. Inflammation of the tube is the most frequent cause of sterility from tubal disturbance. This may be very slight, not enough to produce symptoms or physical signs, but just enough to cause occlusion of one or both ends of the tube. It may vary all the way from this mild form to severe inflammation and disorganization of the tube with extensive exudate, adhesions and abscess formation, salpingitis, coming on after the first birth. Miscarriage because of inflammation during the puerperium or because of gonorrheal infection brought by the husband, who was untrue to his wife during her confinement, is a prolific source of the so-called "one child sterility."

Tuberculosis of the Tubes and Adjacent Structures: A tumor of the tube or in the vicinity of the tubes, interfering with their functions. Malformation of the tubes may consist of atresia of one or both ends of the tubes or in blind passages and diverticulum into which the ovum may wander and lodge, or there may be abnormal openings in the wall of the tube through which the ovum may pass out into the peritoneal cavity and be lost.

Some Affection of the Ovaries, that interferes with their function to such an extent that healthy ova are not formed or not discharged in such a way that they pass into the Fallopian tubes. Inflammation of the ovary may be present in some of its various forms, infected oophoritis, simple oophoritis, cystic ovary, cirrhotic ovary, or an ovary covered with exudate and adhesions, tuberculosis of the ovaries and vicinity, tumors of the ovary, displacement of the ovary (this may be so marked that the ova, instead of passing into the Fallopian tubes, where it would fertilize, passes into the peritoneal cavity and perishes), thickened ovarian cortex, where the Graafian follicles are unable to break through.

Certain Operations: For example, re-

moval of the uterus, or the Fallopian tubes or both ovaries.

Douches which may interfere chemically or mechanically with the process of impregnation.

The General Health May be so Poor that all the organs are in a too weakened condition to properly function—the genital organs among them. This is seen in some cases of marked anemia, emaciation and general depression. On the other hand, it is present at times in patients that are inclined to stoutness. It has happened that sterility came on when a patient accumulated fat and promptly disappeared on reduction to normal weight.

Defective Diet: Reynolds and Macomber, of Boston, subjected rats to three types of diet as follows:

1. Low in fat soluble vitamine;
2. Low in calcium;
3. Low in proteins.

These deficiencies were chosen as being those which are most often present in persons belonging to the well-fed classes in the United States. To them they added a fourth diet which was deficient in both calcium and proteids. This diet gives an approximate representation of the most important deficiencies in the war and post-war diets from which portions of Europe have been and still are suffering and is therefore of interest at the moment.

These diets reduced the mating fertilities of their rats from the normal 65 per cent to 55.31 per cent and 14 per cent, respectively. It delayed the appearance of fertility in rats raised on these diets and lowered its degree. These results were produced by a mere decrease in the percentage of the deficient elements, not by its absence, and without any other change in the life conditions of the rats.

Their conclusions are that many individual infertilities are functional rather than due to anatomic or pathologic causes; that very moderate decrease of fertility in both individuals may produce a completely infertile mating; and that two rats that are infertile to each other may both be fertile to other individuals, not because of obscure incompatibilities, but merely because of a decreased percentage of fertility in each.

Disturbed endocrine gland function, such as thyroid and pituitary gland insufficiency before or at the time of puberty, may cause the genital organs to remain infertile, or, even after they have functioned normally, diseases of these structures may cause retrogression in the genitals and subsequent cessation of menstruation resulting in sterility.

Treatment.

The treatment will be discussed in the following order: Sterility from difficult coitus. If there is some malformation about the vaginal entrance, such as imperforated hymen, thick hymen, septum in the vagina, or organic stenosis of the vagina, the obstruction must be removed by the necessary operative measures. If there are ulcers, tender areas, or hyperesthesia, the following treatment may be employed: abstinence from sexual intercourse for one to three weeks, hot vaginal douches, laxative as needed (very often chronic constipation increases the congestion and irritability of the structures), some sedative ointment, such as chloretone 10 per cent, applied two or three times daily, especially just before intercourse is attempted, and bromides if there is much nervous irritability or apprehension. If the vaginal opening is too small or there is a spasmodic condition, such as vaginismus, gradual stretching without anesthesia or thorough stretching under anesthesia and packing the vagina to hold in this position until the tissues are completely relaxed may relieve this condition. If this fails, division of the constricting structures is advisable. Sterility due to relaxed vagina from old complete tears where the semen is not retained in the vagina long enough to enter the uterus should be corrected by proper repair of the pelvic floor. Profuse vaginal discharge, either specific or non-specific, should be cleared up with douches or local applications of the silver salts, if the discharge is due to chronic endocervicitis. If this treatment does not remedy the condition, cauterization or amputation of the cervix is advised. The discharge may convert the normal alkaline vaginal secretions into a strongly acid media which will kill the spermatozoa quickly. Alkaline douches and constitutional treatment should be employed.

Obstruction in the cervical canal, if due to marked anteflexion or a congenital stenosis of the external or internal os, should be treated by dilatation with or without anesthesia. Dilatation should be followed by the introduction

of a stem pessary to be worn from four to six weeks and repeated in three or four months, if necessary.

I can recall two cases treated by this method with gratifying results. Both were thoroughly dilated under ether anesthesia and a large sized Wylie stem pessary inserted and worn for six weeks. One became pregnant the second month after the pessary was removed. This case had been married three years. The other one, who had been married four years, became pregnant six months after removal of the pessary. Dilatation after each menstrual flow; just after menstruation is presumably the most favorable time for impregnation and, if the canal is dilated at this period, it will remain somewhat dilated for a week or so. In cases with a long, pointed cervix and acutely anteflexed uterus amputation is suggested.

Retrodisplacement should be corrected by suspension of the uterus, preferably by the operation devised by A. M. Willis, of Richmond. If the retrodisplacement is accompanied with a long pointed cervix, which lies forward, a partial amputation should be done at the same time so the cervical canal will be at a right angle with the vagina and the cervix lies well back in the posterior fornix.

Abnormal conditions within the uterine cavity, such as endometritis, either specific or hyperplastic forms, should be treated with applications of antiseptic medical agents, radium or curettage. Malignant tumors and fibromyomata should be removed by proper surgical procedure.

Some obstruction or disease of the Fallopian tubes which prevents impregnation of the ovum by the spermatozoa. Dr. C. G. Child, of New York City, has done more real work for the salvage of these apparently hopeless cases of sterility due to adnexal diseases than any other man I know of in this country and his report of operative cures appearing in the *American Journal of Obstetrics and Gynecology*, December, 1920, is a shining example of what can be accomplished in cases heretofore thought to be hopeless by the vast majority of surgeons and gynecologists. In his series of eleven cases of operative cures he reports three cases which undoubtedly had a previous gonorrheal infection of the adnexa with periods of sterility ranging from two and one-half to eight years and yet all three were delivered of normal, living babies in periods ranging from twelve to twenty-two months after operation. This report should certainly be an incentive for all of us to be more conservative in dealing with gonorrheal infection in the uterus and adnexa, more especially in women who have not been blessed with offspring. Occlusion of the tubes in any number of cases following non-specific, and even in some specific cases as shown by Dr. Child, may be cured of sterility by probing the tubes to the uterine cavity. In other cases where disintegration has been more pronounced, it is necessary to resect and form a new fimbriated extremity by splitting the tube on its superior surface for one-third of an inch and tacking the free edges to the under surface of the tube with fine chromic or tanned catgut. For tuberculosis of the tubes, if slight, probe the tubes and handle with dry gauze to get an active hyperemia. If the tubes are badly involved, resect and construct new fimbriated extremity as just described. Malformations, such as atresia at one or both ends, should be gently dilated with a probe and a small piece of kangaroo tendon left in to keep the tube patent for some time. Tubes showing sacculations and diverticula should be resected up to within one or two inches of the uterus and new fimbriae constructed.

Affections of the ovaries should receive careful attention, adhesions should be freed, cysts and tumors removed. Very often the cortex is so thick that it is impossible for the Graafian follicles to rupture through. Child reports one such case in his series. Cortical stripping should be done on these ovaries. Quite frequently the ovaries are so prolapsed in the cul-de-sac that the ovum perishes in the peritoneal cavity before it reaches the tube. The ovarian ligaments should be shortened so as to bring the ovary up in its proper position.

Sterility due to certain operations, such as hysterectomy, removal of tubes and ovaries, calls for more conservative surgery during the child-bearing period. With a constantly increasing rate of sterility among our native born, it behooves us as surgeons to weigh the case carefully and conscientiously before removing the last vestige of hope from these childless wives.

If the patient has been accustomed to taking antiseptic douches, either for leucorrhea

or cleansing purposes, she should be directed to stop them. In case a douche is necessary it should be saline and not used for eighteen hours after intercourse.

It has been definitely proven that patients suffering from anemia and general emaciation are very prone to sterility. The treatment in this instance is to find the cause of this general debility and correct that. It is my opinion that sterility in obese women is attributable probably to the same cause as the obesity, namely, some endocrine disturbance. In cases where the sexual organs are undeveloped and menstrual function is not established, it would seem advisable to treat them cautiously with extracts of the thyroid or pituitary glands.

In cases where no organic trouble can be demonstrated in either the husband or the wife, certainly a very careful investigation of the diet should be made and if it is found that either or both have been on a diet that is low in fat, soluble vitamine, calcium or protein, a well balanced diet should be prescribed at once.

In conclusion, I wish to make a plea for more conservative surgery in dealing with the generative organs of the female. Our mission in life should be constructive, not destructive. Conservation of the race is of vital interest to society, and the question of sterility should receive conscientious and careful consideration by practitioners of our art.

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The right angle from which to approach a difficult proposition is the *try-angle*.

—(*Selected*).

THE PHYSICIAN AND THE NEWER SOCIAL HYGIENE.*

By THOMAS W. GALLOWAY, Ph.D., New York, N. Y.

When the term social hygiene is used, the average physician assumes that reference is to the prevention and cure of the venereal diseases. If he has kept up with the work of psychopathology he may include, in his definition of the subject, the task of meeting or preventing the unfortunate emotional and nervous effects of the irrational repressions and expressions of sex. Of course these items belong to the subject; but it is none the less true that all the vital social problems of sex health will remain when our scientists have found ways completely to control the venereal diseases.

Social hygiene in the American usage is narrowed somewhat from its European meaning. Here it applies not to all the phases of health which are of a social or collective nature. It is confined rather to the health aspects of the two organic functions which are basically social in their origin and nature,—the functions of reproduction and sex. Social organization and the spirit which makes association endurable and enduring, whether among animals or men, arose directly from the immediate and the remoter biological influence of the attractions of mates and the bonds between parents and offspring.

All other influences tending to bring and hold animals together are of distinctly secondary importance. The co-operative impulses, sympathies, mutual aid, services, devotions and sacrifices intrinsic in any genuine society did not arise out of the competitions, antagonisms, masteries, exploitations and fears engendered in the struggle for existence between species or among the individuals of a given species. Social hygiene means then the discovery and utilization of those elements of character and behavior which bring the maximum of abounding life, beauty, happiness, culture and progress to the individual and to his group by way of these two family and society-building functions of reproduction and sex.

The course of development of this positive and constructive interpretation of social hygiene, out of that treatment of it which emphasizes perversion and disease, is exactly parallel to the growth of all other phases of hygiene. The conception of physical hygiene arose only gradually from an original and ex-

*Abstract of address before the Medical Society of the District of Columbia, Washington, April 27, 1927.

clusive attention to the cure of bodily disease, developing presently into efforts to anticipate and prevent specific diseases. Later still it grew into the definite education in positive appreciation of, and regimens for, the increase of health and wholesome living.

Similarly, mental hygiene started by recognizing and seeking to relieve the more acute forms of mental derangement. Later it has passed into the phase of anticipating and preventing these psychoses by trying to meet effectively their earliest manifestations. It is now far along in the task of cultivating constructively the roots of mental health by early analyses of the mental make-up and progress during childhood and by stimulating a proportional development of emotions and their appropriate expression. The whole modern emphasis tends towards understanding the child from the beginning and toward giving him the best possible chance to get and to maintain the fairest balance of mental processes open to him. These advances in our conception of health make all hygiene more and more a matter of education and training, beginning with life itself and following the individual as long as science gives the expert any data not in the complete possession of all of us.

Formulated in these terms, the problem of social hygiene is in its personal aspects a problem of education,—full and unexpurgated character education—in which the most powerful group of influences which go to determine character and happiness are included just at their actual value,—no more, no less. In this education the sex motives as they arise are used to build up rather than to degrade the other elements in personal character and social relations; and all the other factors in normal character-building are equally used to bring the sex impulses and sex expressions into character in a soundly rational way.

From the immediate social point of view, the goal of sex education is the improvement and conservation of the human family,—which with all its faults and failures is at once the most *social* and the most *successful* of our institutions. It is motivated and built upon sex and reproduction. Upon this institution, with any improvements we can bring to it, depends largely the character of present society, and of all the new individuals who are to determine the society of the future. Its health and improvement are to be had only by the better understanding of its nature and limitations and the fuller preparation of young people, ahead of time, to meet their privileges and opportunities, as more efficient mates and parents.

Has the modern physician any role in this enterprise of social health, growing out of his professional closeness to some of the underlying facts, and out of his position of leadership in our social structure? The responsibility for this sort of thing rests on all community agencies. Opportunity and the desirability of forwarding the whole, sane, richness of life are the measure of one's duty.

What then are the special opportunities of the physician who has social sense and has prepared himself to fit this aspect of hygiene effectively into his program?

1. He has of course a leading position in every community movement to limit or eliminate the venereal diseases and the conditions—whether of ignorance or lax public opinion—which contribute to the incidence and spread of these diseases.

2. Similarly his support means much in every effort to educate public opinion as to the value of a character education of youth which will give them at least a fair chance to use their sex lives constructively and healthfully.

3. Specifically, all physicians who have any intimate professional relations with parents in the home may incidentally and tactfully aid many open-minded parents to fit themselves to meet intelligently various critical points in the sexual and emotional life of their children. To do this acceptably the physician must of course know something of the significance of age and development in the education of children, of mental hygiene, and of the relation of both to sex education.

4. Such a physician, having entrance into the family is often in a position to help the children directly,—whether in understanding their own sexual development and its influence upon the rest of their life, or in appreciating their own family and home and of co-operating fully therein. To enable a boy to sense the value to him of a mother and to meet her half way, rationally rather than sentimentally, is just as really social hygiene education as to aid in solving the problem of masturbation. And on the whole it is more important.

5. The fitted physician is in a peculiarly advantageous position to aid adolescents. As few persons can, he may put some science at their command,—and without preachments.

Four items pertinent to the adolescent age must suffice as illustrations.

First, such an adviser can explain to the boy and girl *why* it is that they are feeling for independence of their parents; how natural and universal and necessary it is that they should become independent persons; that there are fine and considerate ways to do this, and cruel, brutal ways; that it can be done, if both parents and child are willing, so that the boy or girl will come into his own freedom and yet will want to come back to his parents for sympathy and advice. In this enterprise parents should be made to see their part and how best to perform it.

Secondly, various rationalizations about sex float down from older to younger boys and girls. There are many of these,—as: That sex intercourse is necessary for perfect sexual development of either men or women; that men are by nature entitled to a sex freedom that women should not have; that illicit sex relations are only an indiscretion and not a very important one at that; that a period of sexual indulgence makes a man a more understanding husband. None of these has any convincing scientific support; and they all run counter to a reasonable interpretation of our human social values and culture. Their acceptance does a tremendous part in undermining all those rational controls which make for high and humane social relations between the sexes.

Thirdly, the physician is in a very favorable situation to assist his boy and girl patients understand the normal homosexual preferences of early adolescence and the desirability of making the passage into the heterosexual attitude—the admiration for the opposite sex—in a normal and timely fashion. It is unfortunate if this transition is not made. It is equally unfortunate if it is made in a way that degrades the relation which should exist between the sexes. This understanding and acceptance of the other sex does not demand anything approaching incontinence or the exploitation of the other sex at its weaker points. It holds rather with a mutual chivalry which makes each sex find its highest satisfactions in protecting and perfecting the other, as well as itself. These statements are not intended to imply that such mutual consideration can be made universal at our present stage of culture; but rather that such standards are often enough attained to show that they are both possible through education and productive of highest happiness.

Fourthly, young men and women of marriageable age need to know authoritatively numerous facts about the sex nature both of themselves and the other sex, and in such spirit as will enable them to make intelligently and happily the sexual adjustments necessary to a successful married life. The physician owes this service to the young people whose confidence he has won.

Considerations like these are causing socially minded people to expect of physicians and other health workers a preparation sufficient to fit them to meet the elementary needs of human beings, not alone in physical hygiene but in mental and social hygiene as well; and to demand of medical and other kindred schools such training as will support this advanced form of health service. In proportion as state of mind and character are to be thought of in terms of health rather than mystically, it is intolerable that schools dealing scientifically with prevention of disease should rest content with an antiquated conception of health as confined to the physical body. Mental and social hygiene, which are profoundly interrelated, must find an increasing place in every medical school. Alumni owe it to the world to influence their schools in this direction.

370 *Seventh Avenue.*

Correspondence

The Life of Lord Lister.

WASHINGTON, D. C.,
FEBRUARY 8, 1928.

TO THE EDITOR:

I have just returned from my trip to Europe and find that the Lister paper has been published in the MONTHLY, but regret that through an oversight, the references were not given.

The data contained in this paper was obtained from the following books on Lister's life:

Godlee, Sir Rickman John: "Lord Lister," Macmillan & Co., Ltd., London, 1918.

Cheyne, Sir William Watson: "Lister and His Achievements," Longmans, Green & Co., London, 1925.

Wrench, G. T.: "Lord Lister," T. Fisher, Unwin, London, 1913.

Dukes, Cuthbert: "Lord Lister," Leonard Parsons, London, 1924.

Lister, Sir Joseph: Collected Papers, Vols. I and II, 1909, Henry Frowde, Oxford Press, and Hodder and Stoughton, London.

The two letters quoted were taken from Sir Rickman John Godlee's "Lord Lister," and my paper is merely a brief summary, giving the important facts of Lister's life.

Regretting very much that due credit was not given to the authors of the several books from which I obtained most of my information, and hoping that you will correct the error by publishing a note of it in the next issue of the JOURNAL,* I am,

Very truly yours,

EDMUND HORGAN,

Miscellaneous

The Use of the Physician in School Health Programs.

In the November number of the *Child Health Bulletin* published by The American Child Health Association an article entitled "The Use of the Physician in School Health Programs" was printed. It was written by Harold H. Mitchell, M. D., Medical Director of the School Health Study of that organization. In the first paragraph of his article Dr. Mitchell makes the following startling statement: "Each year the physicians have seen thousands of children, fully clothed. Each child has come without a history of past illness, or of present complaint of behavior. Usually from one to four minutes, very rarely ten minutes, have been allowed for the consideration of all the problems of health and disease of each child and for the recording of his findings. The results have been unsatisfactory to both the physicians and the educators." He does not blame the physicians but rather the system, for this incompetent method.

He also sees in these examinations a definite danger. "We must also consider that education as to the value of periodic health examinations is part of the school health program. We believe in the movement in this country to promote periodic health examinations. Must we jeopardize this movement by unfortunate early attitudes implanted in our school children? A 'health examination' is not represented by such procedure as we now exhibit in our public schools".

Furthermore, he feels that the result of these yearly examinations shows little of value. "Many cities report the same large proportion of corrections year after year with no apparent gain or improvement of conditions. The difficulty obviously is a lack of satisfactory bookkeeping methods which adequately measure results, a condition intolerable to business standards".

If such conditions exist in city schools, even worse are those in the rural schools where fewer physicians are available and greater distances are to be covered. He quotes from an article written by Dr. Mary E. Brydon, Director of the Bureau of Child Health, Virginia State Department of Health, published in the *Journal of the American Medical Association*, September 18, 1926, saying: "In Virginia this problem has been faced and a decision made that 'Except in the case of the very poor, the duty of making these examinations should not be the function of a public paid health official; it is the province of the family physician'."

The conclusion of Dr. Mitchell's article reads as follows:

"To recapitulate, health examinations in the schools are generally unsatisfactory:

"First, because they are inadequately conducted under hurried and inconvenient conditions with too little past and present history available.

"Second, because small salaries and the demand for large numbers of examinations combine to discourage careful work.

"Third, because judgments of individual examiners too often differ, due to the lack of methods of precision as to the conditions they find in children.

"Fourth, because these inadequate examinations implant wrong ideas of what constitutes a real health examination, and the benefits to be derived from periodic health examinations.

"Fifth, because school records,—of examinations, evidences of improvement, correction of defects,—are generally too confused and statistically unsound to permit of any intelligent interpretation of results.

"Frankly, we are faced with a dilemma. There is not sufficient confidence that adequate returns can come from more physicians and more time on the examinations to expect a solution of our problem by insisting on larger ap-

*This paper by Dr. Horgan appeared in the January issue of the Monthly.

propriations for the health examinations. We cannot limit the examinations to the few children that the physicians can give time to examine thoroughly. We must apply our scheme to the whole school population. Of course, we may give more time to a few children screened out as in need of special attention. But the method of screening out the abnormal from the normal, the handicapped from the child free 'to achieve the limit of his endowed capacity for well being' should not be left to the hazards of opinion of persons with less than the best judgment available. Our problem is further complicated by the question of whether schools should attempt to supply the health examination service that we have set forth as our ideal in modern hygiene and preventive medicine. If all the needs of periodic health examinations for children could be met through the public schools, we should not leave much preventive medicine to be practiced by the private physician. On the other hand, the writer believes that preventive pediatrics and periodic health examinations should be given more attention in medical schools and every encouragement should be given to the private practitioner who will practice preventive medicine. Shall the school physician supplant the private practitioner in the preventive field?"

The Virginia Department of Health desires to bring to the forefront the use of the family physician in preventive medicine especially, because it is in the rural sections that most of its work is done. Part of the program of the Bureau of Child Health has for its aim the medical examination of the pre-school child who is to enter school in the next session: this examination to be made by the family physician in his own office for whatever fee he may deem proper to charge. To promote this plan, many of the Division Superintendents of Schools are writing their patrons requesting that a medical examination with whatever corrections are indicated be made before the child is admitted to school. Where there are county public health nurses, many of them are making visits to the parents of pre-school children and urging them to go to their own physicians and have this examination made as soon as possible so as to be ready for school in the fall. These public health nurses also hold themselves in readiness to be at the doctor's office when the examinations are made to assist him in any way he may desire. The State furnishes standard forms for recording the results of the examinations. The nurses help the parents to secure corrections whenever their help is requested.

The Department has for several years been working up to this plan by cooperating with the State Board of Education in having the teachers make a simple annual inspection of each pupil to find obvious physical defects with a view to having them corrected and thus promoting school progress. The teachers are trained to do this inspection by a special course of study. It is recognized that inspection by teachers is merely a temporary expedient to meet an emergency until the parents and the family physician assume the responsibility of the health of the school child.

Preventive medicine for the individual is surely the responsibility of the family physician and the sooner he assumes this responsibility the better for oll concerned.

EMILY GARDNER, M. D.

Tularaemia.

Seasonal incidence of cases of tularaemia, according to the United States Public Health Service, is due to the seasonal variation of three sources of infection, tick bite, fly bite and the dressing of wild rabbits, but owing to the overlapping of these influences, cases have occurred in the United States in every month of the year. The great reservoir of infection and the greatest source of human infection from tularaemia is the wild rabbits, jack, cottontail and snowshoe varieties, but owing to the agencies of blood sucking insects common to rabbits and man, we find cases resulting from tick bite and fly bite.

Of the rabbits offered for sale in the Washington, D. C., market in the winters of 1923, 1924, and 1925, Dr. Edward Francis, of the Public Health Service, examined the livers of 1,000, and found nine, or slightly less than one per cent, infected with tularaemia. The liver and spleen of an infected rabbit are studded over the surface with small spots varying in size from that of a pinpoint to one-sixteenth inch in diameter. Of twenty-two cases of tularaemia in Washington, seventeen of the patients had dressed wild rabbits bought or sold in the market, four had dressed rabbits shot nearby, and one had dressed a rabbit which he had killed with a club.

Four hundred and twenty cases of tularaemia have been reported, of which seventeen have died. This places the mortality at about

four per cent. These figures embrace only the cases which have been reported to the Public Health Service, but considering the newness of the disease, they probably represent only a portion of the actual number of cases and deaths.

Cases have now been reported from Japan, from the District of Columbia and from thirty-seven states. The nine northeastern States, being the only significant portion of the United States in which cases have not been recognized.

As a rule when the infection has come from a rabbit some injury has been inflicted on the hand while dressing the rabbit, although a manifest injury is not necessary for infection to occur. Usually an ulcer develops at the site of infection accompanied by enlargement of the lymph glands which drain the ulcer. Fever is always present anud continues for two or three weeks. The site of infection from tularaemia may be located on any part of the body other than the skin of the hands, if due to tick bite or fly bite. The diagnosis of tularaemia is confirmed by a blood test. One attack confers immunity in man. Rest in bed is the most important treatment. The enlarged lymph glands should be opened only after pus has definitely formed.

The infection has never been found in nature in domesticated rabbits raised in rabbitries.

No preventive vaccine or curative serum has yet been perfected, nor has any special drug been found effective against tularaemia.

Rabbit meat thoroughly cooked is harmless for food, and it has been found that a temperature of 56° Centigrade, or 133° Fahrenheit, kills the germ of tularaemia. The ordinary disinfectants are effective. Rubber gloves should be worn by those who dress wild rabbits. Immune persons should be employed to dress them where possible. Infected rabbits, kept frozen for thirty days, have been found to be free from infection. Market inspection of rabbits is impracticable, because only about ten per cent of the rabbits found in the market still have the liver in place.

Beware of the wild rabbit which the dog or cat has caught, or which a boy has killed with a club—it is probably a sick rabbit. The hunter should not shoot his rabbits at the point of his gun. Let him be a sportsman and shoot them on the run at seventy-five yards, say, and the chances will be lessened that the rabbits he bags will be sick with tularaemia.

Bibliotheca Obstetrica

John Burton, M. D.

Burton (John) [1697-1771]. An essay towards a complete new system of midwifery, theoretical and practical. Together with the descriptions, causes, and methods of removing or relieving the disorders peculiar to pregnant and lying-in women and new-born infants. In 4 pts. xix (21), 391 pp., 12 l., 18 pl. 8°. *London, J. Hodges*, 1751.

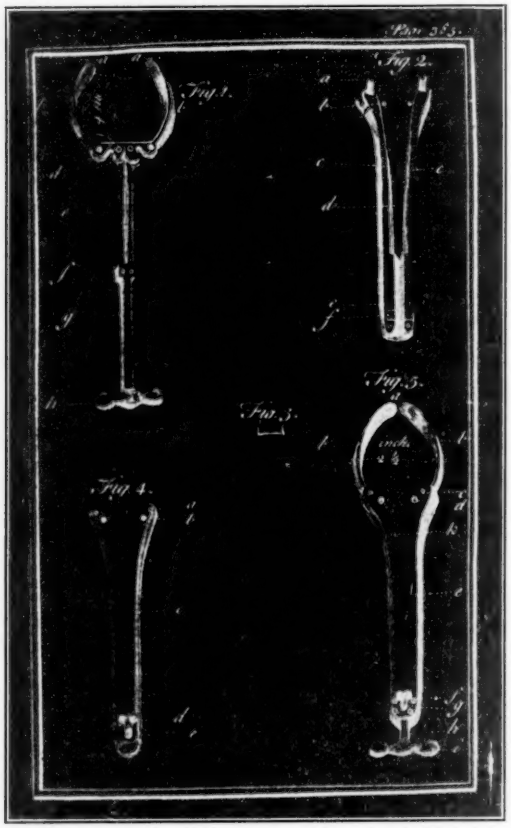
For Biography, see Doran (Alban) Burton ("Dr. Slop"), his forceps and his foes, J. Obst. & Gynec. *Brit.* Emp. 23: 3 and 65, 1913.

This is the *five shillings* book that forms the basis for Sterne's great satire, and the illustration is that of the forceps that crushed Tristam's nose. Doran, who was one of the greatest authorities on the history of forceps, says that the forceps that Burton really used in his practice are preserved in the museum at York. He calls these the York forceps, and says that they are very much like the Dusée forceps. He does not think that the lobster-like forceps that Burton pictures in his book were ever used.

Burton finds fault with the leather covering of the blades of the forceps that was considered so necessary by even the great Smellie. He seems to have had an especial antipathy to Smellie and ridicules Smellie's pretense to learning. Elsewhere he accuses Smellie of copying only from Spachius and not from the authors he lists. A taste of Burton's style may be had from an extract from his preface. He says "Mauriceau is the first author worth reading, but now he is obsolete. Dr. Deventer, a Dutch physician, published his *Ars Obstetricandi* in 1700 and he is the next author worthy of notice. He is the first author that takes notice of the obliquity of the womb as being an obstacle to a speedy and safe delivery. La-Motte is the third author of note. After this time a number of books upon this subject were published, both in these and foreign dominions. Some of them being only cases in midwifery as Giffard's, while other people only published books or pamphlets, from no other motive than to let the world know there were

such persons in being; against whom other writers threw out their squibs for the same reason, the public, in the mean time, not reaping the least benefit by the contest."

Burton was born at Colchester, June 9, 1697, and was educated at Merchant Taylors



The Burton forceps.

and St. John's College, Cambridge, where he got his M. B. in 1733. Later he studied at Leyden, and took his M. D. at Rheims. The Dictionary of National Biography says of him that he was a good classical scholar and his reputation as an accoucheur was deservedly high. His imprisonment in 1745 is commonly taken as evidence that he was a Catholic and was interested in placing the Stuarts back upon the English throne. Doran however says that journey to the North at the time of the Young Pretender's invasion was a business trip, duly sanctioned by the authorities and that there was nothing treasonable in it. His enemies, however, led by Lawrence Sterne's uncle, seized the opportunity and had him imprisoned on the charge of treason, and he remained in jail several months before the action of the local authorities was reviewed in London. Besides being a physician, Burton was an antiquary of note, and he made valuable contributions to the ecclesiastical history of Yorkshire.

M. P. R.

Proceedings of Societies

The Rockingham County Medical Society

Has held meetings each month during the winter. These meetings were all well attended by the physicians and a number of the nurses of the Rockingham Memorial Hospital. The meetings were held at the hospital. The Society has been addressed by the following prominent physicians from near-by places; Dr. Hugh H. Trout, of Roanoke, Va.; Drs. R. P. Bell, and M. J. Payne, of Staunton, Va.; Dr. L. A. Calkins, Professor of Obstetrics at the University of Virginia. Members of the society contributed to the meetings also. Dr. C. E. Conrad gave an excellent paper on the "Occurrence of Thymus in the Newborn," and Dr. H. G. Preston presented a paper discussing three rare eye conditions, at the meeting on February the 13th.

The Society is proud of its charter as a part of the State organization, and will endeavor to co-operate in every way with the parent society.

Dr. Noland M. Canter, Harrisonburg, is president, and Dr. Howard Armstrong, also of Harrisonburg, secretary-treasurer of this Society.

The Wise County Medical Society

Held its annual meeting in Norton, Va., February the 24th, in conjunction with the Norton Medical Society. After the election of officers, the meeting was turned over to the local society and the doctors furnished an interesting and instructive program. Mr. Wade Miles, Deputy Commissioner, read an excellent paper on "The Cooperation of the Attending Physician."

Officers elected for the ensuing year are: President, Dr. B. C. Henson, Roda; vice-president, Dr. G. B. Setzler, Norton; secretary, Dr. W. R. Culbertson, Norton. Dr. Culbertson succeeded Dr. C. B. Bowyer, of Stonega, who

resigned after holding this office for some years.

The Post-Graduate Medical Society of Southern Virginia

Held its third regular meeting in Hopewell, Va., February 21st, under the presidency of Dr. S. E. Gunn, of that place. Papers were read by Drs. Meade Edmunds, W. C. Moomaw, W. B. McIlwaine, and J. T. N. McCastor, of Petersburg; Dr. J. M. Bailey, of Hopewell, and Dr. T. Latane Driscoll, of Richmond. Dr. W. C. Powell, Petersburg, is secretary-treasurer of the Society. This meeting was an excellent one and was attended by about thirty-five members.

The Augusta County Medical Association

Held its tri-monthly meeting in Staunton, February 1, under the presidency of Dr. J. Fairfax Fulton, of that city. After reporting of clinical cases, papers were read by Drs. C. P. Obenschain, of New Hope, and R. P. Bell, of Staunton. Upon adjournment of the scientific program, a subscription dinner was enjoyed by those in attendance. Dr. W. F. Hartman, Staunton, R. F. D., is secretary, and Dr. T. M. Parkins, of Staunton, treasurer of the Association.

The Lynchburg and Campbell County Medical Society

Held its regular meeting in Lynchburg, February the 6th, at which time the subject for discussion was "Influenza." Papers were read on this occasion by Drs. T. E. Rucker, Powell G. Dillard, T. E. Jones and E. L. Sutherland, all of Lynchburg. Dr. E. F. Younger and Dr. S. E. Oglesby, both of Lynchburg, are president and secretary, respectively.

The Norfolk County Medical Society

Gave the name of "Marine Hospital Night" to their meeting of March the 5th. At this meeting, papers were read by Surgeon E. M. Townsend and Assistant Surgeon B. J. Macauley, of Marine Hospital No. 82. Officers of this hospital are regular and interested attendants upon the meetings of this Society.

The Danville Academy of Medicine

Held its regular monthly meeting in that city, February the 14th, Dr. I. C. Harrison presiding. Dr. J. A. Hawkins is secretary. Papers were read by Dr. C. L. Bailey on "Prolapse in Aged Women" and by Dr. C. T. Carter on "Reflex Disturbances of the Intestinal Tract." Both papers were freely discussed. It was voted that the Society should appoint a committee to consult with Dr. R. W. Garnett, Director of Public Welfare, on matters of interest to the members of the society. The president was empowered to appoint this committee.

The University of Virginia Medical Society,

Held its second meeting January 23, 1928, at the University of Virginia Hospital, Dr. Bray presiding.

Dr. J. H. Neff demonstrated a woman with bladder exstrophy. He had successfully transplanted the right ureter into the rectum and planned shortly to transplant the left. Discussion: Dr. Jordan concluded that the anomaly probably dated from the end of the second month of development.

Dr. Oscar Swineford discussed a recent case of paroxysmal hemoglobinuria in a syphilitic. After an extensive review, he outlined his experiments with the patient's blood, which were much in line with those of Donath and Landsteiner. In the discussion, Dr. Marshall referred to Ehrlich's "Horror autotoxicus." Dr. Jordan: "In the rapid regeneration of the erythrocytes, did you obtain evidence of activity of lymphocytes as blood formers?" Dr. Homer Smith: "I cannot agree with Dr. Swineford's views of there being a renal threshold for the elimination through the kidney only at points of injury. Moreover, I doubt if the accepted views as to hemolysis are as satisfactory as their acceptance indicates." Dr. D. C. Smith: "Where does the hemolysis occur? What relation has it to the normal removal of erythrocytes from the blood?" Dr. Swineford: "No evidence of lymphocyte activity as erythrocytes formed. Clear evidence that the kidneys actually were injured, as shown by casts and other urinary features. However, a definite threshold for hemoglobin based on ratio of free to total hemoglobin has apparently been shown. The relation of hemolysis to the normal spleen function, as described by Krumbhaar and others, suggests obvious further studies on the mechanism of hemolysis in paroxysmal hemoglobinuria, but Dr. D. C. Smith's question cannot be answered."

Dr. H. T. Marshall exhibited hearts and

aortas from two recent autopsies. An old syphilitic, with Charcot joints, etc., had an enlarged fibrous heart with thick aortic valves, indistinct evidence of aortitis, and moderate, non-distinctive arteriosclerosis. In the second case there was a sharply marked patch in aorta not involving aortic valves, with the sharp delimitations of syphilitic aortitis but markedly involved in atheroma and calcification as part of a diffuse arteriosclerosis, a condition infrequent in syphilitic aortitis. The patient had evidently survived syphilitic aortitis and eventually developed extensive arteriosclerosis. There was also a condition of extreme mitral stenosis, arteriosclerotic type.

Dr. Vincent Archer demonstrated a series of radiograms of syphilitic and normal hearts and aortas. Discussion: Dr. Flippin.

Dr. D. C. Smith read a paper giving an analysis of the cases in the University of Virginia Hospital, presenting cardiac or aortic syphilis. Discussion by Dr. Edwin Wood and Dr. R. B. Bean.

Dr. Carl C. Speidel outlined an extensive piece of experimental work upon blood formation in splenectomized salamanders, the evidence indicating that blood formation occurred in the circulating system and not at any fixed points. In this animal the spleen is the normal organ for erythrocyte formation, while the capsule of the liver is the point for the formation of the granular leucocytes. The animals were killed at intervals from one to seven months and gave evidence of active blood formation. The liver centers were not involved, while proliferative changes in the circulating blood were numerous. There was also some proliferation of reticular cells in kidneys and fat bodies.

Dr. H. E. Jordan, studying blood regeneration in splenectomized horned toads, found one showing curious changes on the surface of the liver attributed to reactions to a blood clot probably resulting from the earlier splenectomy. Active proliferation of the peritoneal liver capsule cells with phagocytosis was the striking feature. After several transfers from one phagocyte to another, the pigment finally reached the liver in the form of very minute granules. The details of the phagocytosis were illustrated by projection slides.

The next meeting of the Society will be held February the 6th.

The third meeting of the University of Virginia Medical Society was held February 6, 1928, at the Chemical Building, Dr. Bray presiding.

Dr. W. H. Goodwin presented a case of volvulus involving sixteen feet of intestine.

Dr. H. T. Marshall presented three recent autopsies with gas bacillus as a feature and discussed especially the pigmentation of gas bacillus infection. Discussion: Dr. Calkins and Dr. Flippin.

The principal paper of the evening, with numerous lantern slides, was by *Dr. Chas. H. Frazier*, of Philadelphia, upon pituitary diseases.

The next meeting will be Monday, February 20th, at 7:30, at the Chemical Laboratory, adjacent to University Hospital. All physicians, especially members of the Virginia medical profession, are invited to attend these meetings.

Woman's Auxiliary, Medical Society of Virginia

At the request of the officers of the Auxiliary, this space has been set aside for communications from them regarding matters of interest, both to the profession and to the women members of their families.

All communications should be addressed to Mrs. E. F. Truitt, Secretary and Treasurer, Cottage Toll Road, R. F. D., Norfolk, Va.

Program of the Auxiliary.

The Woman's Auxiliary to the American Medical Association has an official national program for Health Education. This program was accepted at the recent meeting of the National Executive Board in Chicago.

The County Auxiliaries in Virginia are earnestly urged to give this program their serious attention, because it must be clearly understood that the National program can only be suggestive.

The following considerations must be kept in mind by State Boards in planning State and County Auxiliary work:

"(1) Suggestions offered by the National Auxiliary to the State Auxiliaries can be only advisory, for the reason that a State Auxiliary should undertake only work which meets the approval of the State Medical Association. and a county auxiliary should undertake only

work which meets the approval of the county medical society.

"(2) The principal function of the Auxiliary is education of the public in health matters. But doctors' wives cannot educate others until they have first educated themselves.

"The first work therefore for the members of a state or county auxiliary should be self-education through reading and through study programs. The first year of every auxiliary's existence could profitably be devoted to education of its own members.

"(3) The best field for work is the women's clubs. Doctors' wives should be willing to accept offices and committee appointments in such organizations as the Federated Clubs and Parent-Teacher Associations, in order to carry on health educational work with their members, and, through them, to teach the general public."

National Program for Health Education

By MRS. GEORGE H. HOXIE, Chairman, Kansas City, Mo.

I. PUBLIC HYGIENE.

Fundamentals upon which Auxiliary work for improvement of public hygiene should be based:

(1) Every state, county and city is entitled to a scientific full-time health department (organized—not to treat the sick, but to prevent disease and promote health), adequately financed, free from political domination, and providing continuity of service to a trained personnel so long as work is efficient.

(2) The first and most fundamental job for lay organizations like the Auxiliary is to secure such scientific full-time health departments and adequate health protection, in their state, their county, their city or town.

(3) Where efficient, full-time, scientific health departments do not exist (and only about ten per cent of the rural districts of the United States have anything approaching adequate health protection), health activities must be initiated and carried on by volunteer unofficial agencies; but all such work should be so planned and administered as to serve as stepping-stones toward the full-time official health department.

(4) When the full-time official health department, with workers trained for public health work, has become an accomplished fact, lay organizations should support and co-operate with the official workers and should be *willing to take orders from them.*

(5) No health department, state, county or city, can do effective work without intelligent co-operation of the public. Such public co-operation depends upon wide-spread health education. Lay organizations can do this educational work, *and are needed for it.*

The Auxiliary can be one of the most valuable tools for an official health department to use in this work.

The Auxiliary can also, by its education of the public concerning the official health department's work and needs, be the means of gradually eliminating or preventing political interference with an efficiently working department, and thus insure to it uninterrupted public service.

(6) Most volunteer agencies do not yet realize the wastefulness of their individualistic efforts. One of the first things the Auxiliary should do is to work for this suggested change of attitude in other volunteer women's organizations.

Health officials know that it is not always the work which makes the greatest emotional appeal to the public which most needs to be done. Unfortunately most women do *not* know this. This is something the doctors' wives might well undertake to teach other women.

The National Auxiliary recommends, therefore, that each State Auxiliary undertake, under the direction and with the help of the public health committee of the State Medical Association, a study of the state health machinery and state health conditions, and that through its committees on education and public health it devise means of acquainting all the state board members with the result of the study, and that educational work for the county auxiliaries be based upon the conditions found.

In states where all is well and where time has developed good official health machinery and good health conditions, general knowledge of the fact will tend to prevent interruption of the excellent work, and will be a source of satisfaction to the women of the state.

In those states where there is much yet to be done, this investigation will indicate what sort of work needs doing first. For example:

(a) In those states which are not in the Birth Registration Area, the Auxiliaries

would, without doubt, wish to tackle, as their first job, the ninety per cent birth registration problem.

(b) In those states in which the state health department believes the "County Health Unit" to be the solution of the rural health problem, the county auxiliaries should be encouraged to take as their chief work such persistent and wide-spread education of the public as will gradually create a general demand for the full time county health department.

(c) In those states where the rural health work is directly done "long distance" by the state health department, the county auxiliaries, if willing to work, and work under the directions of the state health department, can carry on intensive local health education work which would be impossible for the state department without intelligent local co-operation.

To those auxiliaries which agree with these ideas the committee recommends the following outline of study:

(1) Vital Statistics. Their value.
  Compare the vital statistics of the state with those of other states.
  Compare the vital statistics of the different counties of the state.
  Compare the vital statistics of the cities with other cities in the state, and in the United States.
(2) The State Health Department; its organization, and program:
  (a) For general state work.
  (b) For co-operating with the counties in improving county health conditions.
(3) The County Health Unit as a solution of the rural health problem.

Community-Wide Conditions Which Affect Health

(4) Milk:
  Milk standards, why necessary, what milk standards your community needs. How are these needs being met?
(5) Housing:
  Your community housing laws.
  Housing conditions as they have developed under these laws and as they affect health.
  Improvements needed.
(6) General Sanitation and its relation to the death and morbidity rates.
  Sewage disposal.
  Garbage.
  Water.
  Flies.
  Dust and street cleaning, etc.

II. Personal Hygiene.

The improvement of personal hygiene in any community is almost entirely a matter of education. Here again the Auxiliary members must first educate themselves before they can take a safe part in educating the public. The committee therefore recommends that the Auxiliary study programs shall include:

Health Promotion:
  Prenatal care.
  Child Welfare—infant and pre-school hygiene.
  School hygiene.
  Mental hygiene.
  Social hygiene.
The advantage to the public of general compliance with health regulations.
The periodic health examination.
Control of communicable diseases.

The entire program should close with a survey of all the private agencies doing health work in the community, and a discussion of the possibility and desirability of centering the direction of all such work in a full-time, scientific health department, under which the private agencies, while still maintaining their identity, would work in complete co-operation.

Coffee Shop.

It is hoped that each member of the Woman's Auxiliary to the Medical Society of Virginia received a copy of the "*Woman's New Year Journal*," and it is earnestly desired that each member will pay her dues promptly, so that she may receive the next issue in April, as the mailing list is made from members who have paid dues.

The "*New Year Journal*" was financed and published by the Woman's Auxiliary to the State of Texas.

The April Journal will be given by the Pennsylvania Woman's Auxiliary, after which the Journal or Bulletin is uncertain.

The American Medical Association has asked the National Auxiliary to sponsor a "Coffee Shop," to be held at the time of the American Medical Association meeting, in Minneapolis, Minn., in June. The space for

this "Coffee Shop" has been donated in the auditorium, where all the scientific meetings of the American Medical Association will take place and which is eight blocks from headquarters hotel.

It is hoped that money enough can be made at this "Coffee Shop" to finance the Journal or Bulletin for another year. The chairman of this committee is Mrs. Allen Bunce, president-elect of the National Auxiliary. The actual work will be done by the Domestic Science Department of the Minneapolis College.

It has been suggested that each state send a food for which it is famed. On "Virginia Day" there will be Smithfield hams and peanuts. The County Auxiliaries in Virginia are asked to send a contribution for this fund to Mrs. E. F. Truitt, State Treasurer, to help make our day a success.

The Truth About Medicine

In addition to the articles enumerated in our letter of December 30th, the following have been accepted:

Hermes—Groves Dairy Co.
Bacillus Acidophilus Milk—Hermes
Lederle Antitoxin Laboratories
Anterior Pituitary Desiccated—Lederle
Posterior Pituitary Desiccated—Lederle
Whole Pituitary Desiccated—Lederle.
Eli Lilly & Co.
Iletin (Insulin—Lilly- U-100, 10 c.c.
Liver Extract No. 343
H. K. Mulford Co.
Sterile Solution of Dextrose (d—Glucose) 50 c.c. Double End Vial
Sharp & Dohme
Hexylresorcinol Solution S. T. 37

NEW AND NONOFFICIAL REMEDIES

Bacillus Acidophilus Milk—Hermes. A whole milk cultured with *B. acidophilus*. It contains not less than 200 million of viable organisms (*B. acidophilus*) per c.c. at the time of sale. For a discussion of the actions, uses and dosage of bacillus acidophilus preparations, see New and Nonofficial Remedies, 1927, p. 216, "Lactic Acid-Producing Organisms and Preparations." Hermes—Groves Dairy Co., Pittsburgh. (Jour. A. M. A., January 14, 1928, p. 117).

Phanodorn.—Cyclobarbital. Phanodorn differs from barbital (diethyl-barbituric acid) in that one of the ethyl groups of barbital is replaced by a cyclohexenyl group. The actions and uses of phanodorn resemble those of barbital, but it is more than twice as active as barbital and the therapeutic dose is correspondingly smaller. It is eliminated more rapidly than barbital; hence the action is not so lasting. This is an advantage when it is used merely to put one to sleep where sleep will then continue without its further action. It is used mainly for its sedative action. Winthrop Chemical Co., Inc., New York. (Jour. A. M. A., January 14, 1928, p. 117).

Sterile Solution of Dextrose (d—Glucose) 50 c.c. Double End Vial. Each vial contains Dextrose, U. S. P., 25 Gm.; cresol, 0.1 per cent; distilled water, to make 50 c.c.; buffered with diabasic sodium phosphate anhydrous and potassium biphosphate anhydrous. H. K. Mulford Co., Philadelphia.

Hexylresorcinol Solution S. T. 37. A solution of hexylresorcinol—S. & D. (New and Nonofficial Remedies, 1927, p. 320), 1 part, in a liquid composed of glycerin 30 per cent and water 70 per cent, 1,000 parts. Sharp & Dohme, Baltimore.

Iletin (Insulin—Lilly) U-100, 10 c.c. Each cubic centimeter contains 100 units of insulin—Lilly (New and Nonofficial Remedies, 1927, p 198). Eli Lilly & Co., Indianapolis. (Jour. A. M. A., January 28, 1928, p. 293).

PROPAGANDA FOR REFORM

Vaccine Treatment for Infections of Upper Respiratory Tract.—Upper respiratory infections, acute or chronic, are due to bacterial infection, usually of a mixed type. Various organisms, as the pneumococcus, streptococcus, staphylococcus, influenza bacillus and *Micrococcus catarrhalis*, may be demonstrated as normal inhabitants in the nasopharyngeal secretions of healthy persons. During seasonal variations or epidemics, some particular variety or group may predominate, particularly some type of the pneumococcus or the influenza bacillus. Bacteriologic examination in the upper respiratory infections does not reveal one specific organism as several varieties are present, perhaps some one predominating, depending on circumstances. The presence or absence of symptoms interpreted as disease depends mainly on the virulence of the infecting organisms present and the resistance of the individual. It is the latter factor that vaccine therapy is supposed to assist. The results of such treatment must be determined by immunity tests or by clinical results. Advocates of vaccine therapy, either autogenous or stock vaccine, are not able to advance laboratory proof that is convincing, but prefer to depend on the clinical data, which is notoriously uncertain. Colds, coryza, upper respiratory infections and the like may respond so promptly to the usual drug therapy or even to no treatment whatever that it is impossible and unfair to make the clinical results a basis of proof for the justification of vaccine therapy. (Jour. A M. A., November 12, 1927, p. 1713).

Broadcasting Buncombe.—In the not very distant past, the quack and the faddist had the entrée—at advertising rates—to the majority of the newspapers of the country, and thus was made the point of contact between sucker and suckee. Today the majority of newspapers of wide circulation do not cater to the business of the medical faddist or the quack. With that avenue closed, it was but natural that radio advertising should be taken up. Broadcasting in the United States is a commercial venture. Generally speaking, the broadcasting station is out to sell time on the air. It is natural, therefore, that these stations should look with favor on any commercial organization that is willing to pay the price the station asks for puffing its particular line of goods. Thus it is that the radio fans have their ears assailed almost nightly with some pseudomedical fad, or the exploitation of some crude piece of quackery. One of the earliest entrants into this field was the "Palmer School of Chiropractic," which has its own broadcasting station, WOC, at Davenport, Iowa. Then there is that enterprising quack who specialized on "rejuvenation" operations and who owns and operates KFKB. Station WHT some

months ago was broadcasting with great regularity the alleged virtues of a "patent medicine," Salicon. WJAZ, not so long since, was telling the radio world the marvels of that ingenious fakir, Professor Scholder. Over KTNT, of Muscatine, Iowa, comes the story of the "Tangley Institute," which has a sure-fire cure for varicose veins. WJBT of Chicago has described, via the ether, the marvels and virtues of the magic horse collar, the "I-on-a-co." The Voice of Labor—WCFL—permits Dr. Percy Lemon Clark, of Chicago, to broadcast health misinformation. Over this same station—WCFL—comes also the "Restoro," a base imitation of Wilshire's magic horse collar. (Jour. A. M. A., November 19, 1927, p. 1786).

The Medical Profession and Cosmetics.—The American Druggist, which, according to newspaper reports, has been added to the series of publications owned and controlled by the International Publications, Inc., of which William Randolph Hearst is president, contains an article by one Alice (Hyphen) Esther Garvin, who, apparently has developed the quaint notion that the American Medical Association is endeavoring to secure legislation which will make it necessary for druggists to sell cosmetic preparations only on prescription. This extravagant straw man the lady then devastates with ridicule. The American Medical Association is holding strictly to its policy of protection of the public in all matters related to health, asking only that the presence of dangerous ingredients in the few cosmetic preparations that contain them be so indicated as to give the public the opportunity of knowing what risks it may run in using them. (Jour. A. M. A., November 19, 1927, p. 1787).

Horace D. Reynolds—Quack.—Ohio papers of October 26, 1927, reported that Horace D. Reynolds, of Cleveland, was being held without bond when two victims died and four others became seriously ill following the administration of Reynolds' so-called serum. Reynolds and those associated with him have operated quack offices in various large cities—Chicago, Cleveland, Pittsburgh, Buffalo, Detroit, etc.—that are described as "Research Laboratories." In Chicago Reynolds' concern was known as the "State Research Laboratories." This laboratory, which has been known as the "Blood Cell Serum Laboratory," flourished until the *Chicago Tribune* exposed the Reynolds quackery and practically drove it from the city. (Jour. A. M. A., November 19, 1927, p. 1801.)

Diet for Pernicious Anemia.—The essential feature of the Minot and Murphy liver diet in pernicious anemia is the administration daily of about 200 Gm. of cooked weight of mammalian liver. This is combined with generous amounts of fruits and vegetables, containing from 5 to 10 per cent of carbohydrate, and red muscle meat. A reading of the work of Minot and Murphy leaves the impression that diet is more or less specific in pernicious anemia and only adjuvant in secondary anemia. (Jour. A. M. A., November 19, 1927, p. 1803).

Pyridium.—Pyridium appears to have been originated by one Professor Ostromislenski, who came from Russia several years ago to give America the benefit of his researches. In a circular issued by Merck & Co., the preparation is said to be "a colloidal condensation product of Phenyl-Azo-Diamino-Pyridine Hydrochloride as prepared by Prof. Ostromislenski" and it is recommended in the treatment of "Genito-Urinary Infections especially Gonorrhea." Apparently the only evidence for the value of Pyridium is contained in a book by Ostromislenski. Merck & Co. has not presented the product to the Council on Pharmacy and Chemistry for determination of its acceptability for New and Non-official Remedies. (Jour. A M. A., November 19, 1927, p. 1803).

Seeqit.—This is an analgesic tablet put on the market by a concern known as Laboratories JAQ, Inc., of New York City. The method of introducing this nostrum is unusual. Instead of advertising the product in the newspapers and placing it on the shelves of the drug stores, Laboratories JAQ, Inc., circularize women's colleges and such large industrial concerns as employ many women. Seeqit is described as "the great industrial tablet which will create 100 per cent efficiency and bring health and happiness to your women workers." The A. M. A. Chemical Laboratory analyzed Seeqit and concluded that each tablet consists essentially of 0.2 Gm. (approximately 3¾ grains) of amidopyrine (Pyramidon) and 0.07 Gm. (approximately 1 grain) of caffeine, with excipients. (Jour. A. M. A., November 26, 1927, p. 1891).

Formula RA-3.—This is a rather obvious piece of quackery. In February, 1926, John R. Willis, director of the concern that puts out RA-3, described the product as a newly discovered, absolutely harmless, fully guaranteed, therapeutic preparation which contains minute quantities of Radium. It was stated that these minute quantities of Radium, "together with important other ingredients," which "medical science has discovered has a peculiar power of clearing the brain, toning up the entire system, nerves, muscles, organs, bringing about a healthy buoyance and vigor that makes you feel like a new man." In July, 1926, Mr. Willis described the product as a preparation containing "all the important constituents of the outsides of the grains and vegetables. . . ." (Jour. A. M. A, November 26, 1927, p. 1893).

Auto-Hemic Therapy.—One of the ventures of L. D. Rogers is his "Auto-Hemic Serum", with its inevitable "National Society of Auto-Hemic Practitioners". According to Rogers, Auto-Hemic Therapy "consists in giving the patient a solution made by attenuating, hemolizing, incubating and potentizing a few drops of his or her own blood, and administering it according to a refined technic developed by" L. D. Rogers. Those interested can, by sending Rogers "$100 cash in advance", get a mail-order course on this marvel (Jour. A. M. A., November 26, 1927, p. 1893).

Magic Materia Medica.—This is put on the market by one C. E. Krueger. He claims to be a chemist and states that, so far, he has "not been able to learn what this healing substance is," but emphasizes that his preparation contains just enough radium to be effective. Mr. Krueger has high and lofty ideas regarding its therapeutic value. He claims that Magic Materia Medica has "cured cataract," is "an excellent eye wash," is good for catarrh and hay-fever, and to have cured rheumatism, neuralgia, lumbago, eczema, diphtheria, pleurisy, goiter, boils, pimples, stomach, intestinal and kidney trouble, and is even claimed to cure cancer. The A. M. A. Chemical Laboratory reports that from analysis it is concluded that "Magic Materia Medica" is essentially a 10 per cent solution of a mixture of approximately equal weights of anhydrous calcium nitrate and anhydrous calcium chloride, plus a very small amount of sodium iodide. (Jour. A. M. A., December 3, 1927, p. 1983).

The Viavi Fake.—For years there has been exploited throughout the United States a piece of quackery known as "Viavi." The business was founded by two brothers, Messrs. H. and H. E. Law, San Francisco. Viavi is not the name of a single preparation; it is a generic name given to a long

list of nostrums put out by the Viavi Company. Practically all of the preparations are sold for the alleged alleviation and cure of diseases peculiar to women. The basis of most of the Viavi preparations seems to be golden seal. Some years ago the *California State Journal of Medicine* published a detailed exposé of the Viavi quackery. In general Viavi had not been advertised to any extent in newspapers. However, immediately Viavi advertisements appeared in all the San Francisco papers and no further newspaper criticism appeared. A physician reports the case of a woman with unmistakable evidence of cervical carcinoma of several months' standing. The history of the case was that the young woman, some four months previously, instead of going to the family physician, fell into the hands of the local Viavi agent. Finally the Viavi people told the woman she had cancer and recommended that the sufferer go to Detroit and take the Koch treatment! Before the poor woman could decide what to do, the lesion ulcerated into an artery. The family physician writes: "Four months ago there might have been a chance to save the life of this young mother; today, the case is practically hopeless." (Jour. A. M. A., December 3, 1927, p. 1983).

Monahato, Another Lead and Sulphur Hair Dye.—"Monahato" is put on the market by the Moulton Products Co., Lombard, Ill. It is described as the "original, natural hair tonic." Contrary to the claims on the package, Monahato is *not* a "natural hair tonic"; it is *not* "a genuine herb compound," and it *does* "rely upon harmful chemicals" for the property it has of dyeing the hair. Although the carton declares, by inference, that Monahato contains no lead salts or sulphur, analysis of the preparation in the A. M. A. Chemical Laboratory disclosed the fact that it contains both. In other words, Monahato is essentially a hair dye of the lead-salts and sulphur type. (Jour. A. M. A., December 10, 1927, p. 2059).

Miracle Pyorrhea Powder.—"Let us save your teeth! We can do it! No matter how soft or how spongy and bleeding the gums may be, or the teeth so loose it seems you could pick them out with the fingers, the Miracle Pyorrhea Powder will make them hard and firm again." These were some of the claims made by the Miracle Remedy Co., of Detroit, for its product "Miracle Pyorrhea Powder." Analysis seems to show that the preparation is essentially a mixture of baking soda and borax, or possibly boric acid, to which has been added a very small amount of aromatic oil. Some miracle! (Jour. A. M. A., December 10, 1927, p. 2059).

Golden Glint.—If we are to believe the advertising material that comes with the trade package, Golden Glint (J. W. Kobi Co., Seattle, Washington), "is a specialist's preparation for harmlessly beautifying the hair." There is also a "Golden Glint Shampoo." From an examination made in the A. M. A. Chemical Laboratory, it appears that Golden Glint is essentially a mixture of aniline dyes, such as methyl violet (used in indelible pencils), and Bismarck brown, with excipients. (Jour. A. M. A., December 10, 1927, p. 2059).

Knox-Tartar.—This is a preparation of A. W. Knox, Los Angeles, sold for cleaning the teeth. The carton declares that the product contains "no acid" and "no pumice." From an examination made in the A. M. A. Chemical Laboratory, the product appears to be essentially an abrasive (kieselguhr), to which has been added a very small amount of starch. (Jour. A. M. A., December 10, 1927, p. 2059).

Book Announcements

Troubles We Don't Talk About! By J. F. MONTAGUE, M. D., F. A. C. S., of the University and Bellevue Hospital Medical College; Lecturer on Rectal Pathology, etc. Philadelphia, London, Chicago, Montreal. J. B. Lippincott Company. Octavo of 248 pages. Illustrated. Cloth. Price, $2.00.

Crawford W. Long and the Discovery of Ether Anesthesia. By FRANCES LONG TAYLOR, with a Foreword by FRANCIS R. PACKARD, M. D. Paul B. Hoeber, Inc., New York. 1928. Octavo of 237 pages with 8 full-page plates. Cloth. Price, $4.00.

The Peaks of Medical History. An Outline of the Evolution of Medicine for the Use of Medical Students and Practitioners. By CHARLES L. DANA, A. M., M. D., LL.D., Professor of Nervous Diseases, Cornell University Medical College; Ex-President of the New York Academy of Medicine. SECOND EDITION. Paul B. Hoeber, Inc., New York. 1928. Octavo of 105 pages. Illustrated with 43 full-page plates and 16 text illustrations. Cloth. Price, $3.00.

The Mechanics of the Digestive Tract. An Introduction to Gastroenterology. By WALTER C. ALVAREZ, M. D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation). SECOND EDITION. Paul B. Hoeber, Inc. 1928. Octavo of 447 pages, with 100 illustrations. Cloth. Price, $7.50.

The Current Significance of the Word Alum. By WILLIAM D. RICHARDSON, Former Editor, Industrial and Engineering Chemistry, etc. With References to the Literature. Published by The Commonwealth Press, Chicago, U. S. A. 1927. 12mo of 93 pages. Cloth. Price, $1.00 net.

A Monograph Covering the Origin, History and Significance of the Term Castile Soap. Together with a Discussion of the Properties, Uses, Reputation, Adulteration, and Imitation of the Product; Based upon over 900 Extracts from the Literature of 400 Years. By R. W. MITCHELL, Ph. D., Chemist to Lockwood Brackett Co., Boston. 1927. Paper.

Methods and Problems of Medical Education. (Eighth Series). By Division of Medical Education, The Rockefeller Foundation, 61 Broadway, New York, N. Y., U. S. A. 1927. Quarto of 372 pages. Paper.

Safeguarded Thyroidectomy and Thyroid Surgery. A Manual Designed as a Practical Guide for the General Surgeon. By CHARLES CONRAD MILLER, M. D., Philadelphia. F. A. Davis Company, Publishers. 1928. Octavo of 261 pages Illustrated. Cloth. Price, $3.75 net.

Handbook on Diet. By EUGENE E. MARCOVICI, M. D., Formerly Assistant to Professor von Noorden in Vienna; Instructor, Post-Graduate Hospital, New York, etc. Philadelphia. F. A. Davis Company, Publishers. 1928. Octavo of 323 pages. Cloth. Price, $3.50 net.

Virginia Medical Monthly

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Editorial

Since the following editorial was written, the bill to re-enact our present Medical Practice Act has been passed out of the House of Delegates successfully on all of its readings, and has been reported out favorably by the Senate Committee on General Laws. It will now come up for consideration on the floor of the Senate.

Medical Legislation.

At the present session of the Virginia Legislature, the public policy and public health committee of the Medical Society of Virginia, acting jointly with the legislative committee of the State Medical Examining Board, undertook four major objectives and at the present time has apparently accomplished all that could be desired under the circumstances.

The unlicensed chiropractors introduced a bill which had for its purpose the creation of a chiropractor board and other conditions pertaining thereto. The committee on general laws of the House of Delegates, on January 27th, by a vote of 12 to 1 refused to report the bill out of the committee, which means its defeat.

A bill introduced in the Senate by our committee to repeal the DeCollard poropath bill, enacted during the session of 1918, was favorably considered by the Senate committee, passed by the Senate and has been read for the second time before the House, and passed on for the third reading by a vote of 82 to 6. This infamous poropath act will now be removed from the statutes of Virginia.

Another bill introduced by our committee, to prohibit the operating of a "diploma mill," or the practicing of any one who is a graduate from a "diploma mill," is now being held up by the committee's request.

Acting upon the authority of the society at the Petersburg meeting, our committee also introduced a bill to re-enact the present medical laws. The entire bill was rearranged, though not changed in substance, and is now on the calender of the House for the second reading, after having been recommended by the committee on general laws with a vote of 12 to 1. This bill puts all persons who practice the "art of healing" on the same basis, before the medical examining board, and is satisfactory to the homeopaths, osteopaths, chiropodists and optometrists, as well as the Christian Science healers. The chiropractors, who were legalized by the acts of 1916, are not disturbed in any way, except in the sense of being required to conform to the state health laws and to the standard ethics on advertising. Of course no recognition is made of the chiropractors who began practicing after January 1, 1913. There are about 72 of these, and 17 legalized chiropractors. Both of these groups have combined, have employed an attorney and are exercising every effort to defeat our bill.

The Society's committee has had a very strenuous existence ever since the General Assembly convened in combating the situations developed by the chiropractors. Strange as it may seem, some of our representatives are most energetic in their behalf. There has been a general lack of interest on the part of the rank and file of the profession throughout the state, which has thrown the entire responsibility on the shoulders of the committee, and even when called upon by telegram, a number of prominent physicians have not seemed to know what the committee was endeavoring to do.

It is almost impossible for the committee, who are strangers to a large number of the representatives, to satisfy any particular member of the General Assembly, when the latter's own physician has not taken the trouble to inform him as to the menace of drugless healers, who have persistently lobbied against

all the rules, against the State Board of Health, toxin-antitoxin, vaccination, the conception of germ diseases and everything else that is in opposition to their monetary gain.

In the next issue we hope to report that the re-enactment bill will have passed so that in the future when there are any violations of the law the statute as now written will be clear and prosecution can be secured.

A report on medical legislation now pending suggests reference to an allied activity of the Society, namely, the medical defense department, concerning the operation of which there seems to be a good deal of confusion in the minds of many physicians.

By action of the Society at its 1921 meeting, this department was inaugurated in 1922. It was left optional with the members whether they would pay the dollar additional to their dues, thereby enjoying the protection. The following year, since there was general confusion regarding the dollar additional, it was determined to make the fee compulsory, so that all members in good standing now automatically come under the protection offered by this department.

The plan has resulted most satisfactorily to the members of the Society who have been so unfortunate as to have to call for assistance. The funds have accumulated to an amount which can safely meet the demands that may arise, and it is hoped that at some time in the near future an enlargement on the original plan may be undertaken.

This department does not provide any sums of money that might be allowed in damages, but does pay an attorney to defend a member in a suit. The amount of the attorney's fee has varied from time to time, according to the character of the suit. A member of the medical defense committee, wherever there is a suit instituted, is directed by the chairman of that committee, after notice has been given to the secretary of the society, to investigate the facts in the case and report to the chairman, who in turn instructs the local member of the committee to proceed to secure an attorney to defend the case, and supervise the proceedings throughout.

We have learned with a great deal of surprise, that a large number of the members of the Society do not carry any insurance against damages in alleged malpractice suits, which happens to be the situation in a case pending at the present time. It is suggested that all members of the Society hereafter fortify themselves with such a policy. Where a member does have this protection our attorney and the attorney for the insurance company work in conjunction, which is an advantage to all parties concerned, and should the member have an unfavorable decision, the insurance company not only pays the attorney fee, but also the amount which is allowed. This protection can be obtained at very small cost and the necessity for it is strikingly illustrated by the fact that for some unknown reason, a greater number of suits are instituted against physicians now than formerly.

L. T. P.

News Notes

Campaign for the Early Diagnosis of Tuberculosis.

A nation-wide campaign for the early diagnosis of tuberculosis is being conducted during March and April by the National and State Tuberculosis Associations. The object of the campaign is to teach the public the early danger signals of tuberculosis, those stressed being: Too easily tired, loss of weight, indigestion, cough that hangs on, and the advice given is to "let your doctor decide."

This is a campaign of co-operation between the Tuberculosis Associations and the medical profession, and has the official endorsement of the American Medical Association and the American Public Health Association.

The Virginia Tuberculosis Association and the various local associations in the state will carry on an extensive educational campaign and the hearty co-operation of the medical profession is desired in this effort to get people to consult their family physicians in order that tuberculosis may be discovered in its early, curable stage.

A medical film on the early diagnosis of tuberculosis has been prepared and will be shown *gratis* by the Virginia Tuberculosis Association. County and district medical societies will find that this is a film which will add to the interest of their programs and may obtain its use upon application to the Virginia

Tuberculosis Association, 511 Atlantic Life Building, Richmond, Va.

Councilor for Second District.

Dr. Walter B. Martin, Norfolk, Va., has been appointed a member of the Executive Council of the Medical Society of Virginia from the Second Congressional District, to fill the vacancy caused by the death of Dr. Israel Brown. This appointment has just been made by our president, Dr. J. W. Preston, in accordance with our By-Laws.

The Southwestern Virginia Medical Society

Is to hold its next semi-annual meeting in Marion, Va., March 29th and 30th, under the presidency of Dr. J. L. Early, of Radford, Va. Invited guests who will present papers on this occasion are Dr. L. T. Royster, University; Dr. Southgate Leigh, Norfolk, and Mr. Charles Stevens, of Baltimore, Md. Dr. R. M. Hoover, Roanoke; Dr. S. H. Nixon, Christiansburg, and Dr. T. R. Bowers, Bristol, will read papers in the symposium. Those presenting voluntary papers will be: Drs. J. F. Armentrout, J. O. Boyd, Frank Helvestine and W. Banks, Huff, of Roanoke; Dr. W. A. Brumfield, of Blacksburg; Drs. L. F. Cosby and H. M. Hayter, of Abingdon; Dr. R. F. Thornhill, of Pulaski, and Dr. Charles F. Graham, of Wytheville.

The Tri-State Medical Association of the Carolinas and Virginia

Held its thirtieth annual session at Cavalier Hotel, Virginia Beach, Va., the middle of February, with a good attendance. Officers elected for the 1929 session are: President, Dr. James K. Hall, Richmond, Va.; Vice-Presidents, Dr. Oren Moore, Charlotte, N. C., Dr. DeWitt Kluttz, Greenville, S. C., and Dr. R. Finley Gayle, Richmond, Va. Dr. James M. Nothington, Charlotte, N. C., was re-elected secretary-Treasurer. The new members elected to the Executive Council are: Dr. J. Bolling Jones, Petersburg, Va.; Dr. D. A. Garrison, Gastonia, N. C.; Dr. W. R. Wallace, Chester, S. C.; and Dr. L. G. Beall, Black Mountain, N. C., the latter to take the place of Dr. Douglas Murphy who has moved from the Tri-State territory. Members of the Council who hold over are: Dr. M. H. Wyman, Columbia, S. C.; Dr. Warren T. Vaughan, Richmond, Va.; Dr. E. S. Boice, Rocky Mount, N. C.; Dr. F. B. Johnson, Charleston, S. C.; and Dr. R. L. Payne, Norfolk, Va.

It was decided to hold the next meeting in Greensboro, N. C., and to have some clinical features included in the program.

Annual Graduate Fortnight of the New York Academy of Medicine.

An unusual opportunity to study the degenerative diseases of old age will be given by the New York Academy of Medicine, October 1 to 13, by means of a program of lectures, clinics and courses in hospitals and teaching institutions.

This is to be the first "Annual Graduate Fortnight" of the Academy, inaugurating a form of graduate medical education novel in this country. In October of each year a problem of medicine or surgery of outstanding importance and interest to practising physicians will be selected. The topic for 1928 is described as "The Problem of Aging and Diseases of Old Age."

Not only will the diseases and management of old age be discussed, but attention is to be directed toward the prevention of premature and postponing of normal aging. Diseases of the heart, and affections of blood pressure and kidneys will be studied under the guidance of men of national and international reputation.

By concentrating all the available knowledge and experience on a single problem each year, it is believed the greatest benefit to general practitioners and specialists as well, can be secured. The coming sessions will devote considerable time to pointing out the effect of wrong modes of living. Aging as it relates to health insurance, and to economic and industrial problems, is to be included in the curriculum.

No fees are to be charged for the Fortnight. It is not expected that every physician will feel disposed to attend all of what will be a program of long duration each day. Special courses to be arranged in conjunction with the sessions by medical schools and teaching hospitals may, however, carry a nominal charge for those who attend them.

Sessions are scheduled for morning, afternoon, and evening, with suitable arrangements for physicians from out of the city to have supper served at the Academy between the afternoon and evening sessions.

Dr. James F. Mitchell,

Professor of surgery in George Washington University Medical School, and an ex-president of the Southern Surgical Association, by

invitation addressed the Richmond Academy of Medicine at its meeting on February the 14th.

Dr. Fred F. Oast,

Recently of Catawba Sanatorium, Va., for the next few months will be at Kern County Sanatorium, Kern County, California.

President of N. C. State Board of Health.

Dr. Andrew J. Crowell, of Charlotte, was recently elected president of the North Carolina State Board of Health. He succeeds Dr. J. Howell Way, deceased, who held the position for a number of years.

Clinical Tour of Europe.

The American College of Physical Therapy has arranged for their fellows and interested doctors what might be termed a complete European Review of physical therapy. No less than twenty-one clinics are included in the itinerary. The countries to be visited are England, France, Switzerland, Austria, Germany and Denmark. The party will sail from New York May 26th. The first clinics will be visited in London.

Preliminary lectures have been arranged to be given on board ship en route to Europe. This will enable the doctors who go abroad to obtain a clear conception of what is in store for them on the other side.

Any doctor who is interested in physical therapy is cordially invited by the College to attend these clinics. Headquarters for this tour have been established at 25 Broadway, Suite 656, New York City, New York. Further particulars may be obtained by writing to that address.

Proposed Revision of Washington, D. C., Child-Labor Law.

Soon after the opening of Congress in December, bills were introduced in the House of Representatives and the Senate forbidding all gainful employment of children under 14 years of age in the District of Columbia, except in housework or agricultural work performed outside school hours for the child's parent or legal guardian; providing for an 8-hour day and 48-hour week for employed children between the ages of 14 and 18; improving the provisions of the present law regarding street trading and dangerous occupations; and strengthening the measures for the enforcement of the present child-labor law.

Major Allen J. Black,

Who has been in the Medical Corps of the U. S. Army for some years and was recently located at Fort Andrews, Mass., has been retired for physical disability incident to the service and has located in Richmond, Va. His home is at 1511 Palmyra Avenue. Major Black has kept up his membership in the Medical Society of Virginia during the whole period of his service in the Army.

Visitors in Richmond.

Dr. William Allan, of Charlotte, N. C., and Dr. E. S. Boice, of Rocky Mount, N. C., were recent visitors in Richmond.

The Virginia Tuberculosis Association

Held its nineteenth annual meeting in Richmond, February the 24th. The executive secretary, Miss Leslie Combs Foster, gave a brief account of the year's work, in which she stated that during the year officials of the Association made 211 visits to Virginia counties and cities, gave thirty-nine public addresses, and called upon 1,000 people on conferences in regard to tuberculosis work. She stated that Hanover, Henrico, Louisa and Chesterfield counties had sent many underweight children to health camps and that 382 children received the benefits of the nutrition program. Local associations sent 478 patients to sanatoria and paid for 605 months' board for those unable to pay. Home aid was given to 1,431 tuberculosis patients.

It was announced at this meeting that the Association would take an active part in the early diagnosis campaign which will be conducted during March and April, in an attempt to locate hidden cases of tuberculosis throughout the state.

Officers named for the ensuing year are: President, Dr. William F. Drewry, Petersburg; vice-presidents, Dr. H. A. Latane, Alexandria, and Mrs. William Gatewood, Newport News; treasurer, Mr. George Call, Richmond; secretary of the board of directors, Dr. Roy K. Flannagan, Richmond.

Polish Children Aid Child Sufferers of Mississippi Flood.

Polish children have contributed two separate gifts of money, totaling nearly $2,000, through the Junior Red Cross of Poland, to aid the child flood victims of the Mississippi Valley. The Junior Red Cross of Washington says that 130,000 Polish children contributed to the gifts, and that the money is being used in carrying out Junior Red Cross projects for the children of the flood areas.

Dr. and Mrs. George B. Barrow

Returned to their home in Clarksville, Va., the latter part of February, after a visit to Jacksonville and other places of interest in Florida.

Dr. Edmund Horgan

Has returned to his home in Washington, D. C., after an interesting visit to the surgical clinics of London, Berlin, Vienna, Gratz, Genoa, Paris and Brussels.

Dr. Howard Kelly has Another Birthday.

The *Baltimore Sun*, of February the 22nd, paid most fitting tribute to Dr. Howard A. Kelly, of that city, on the occasion of his seventieth birthday, in an editorial under the caption of "One of the Grand Young Men." It says in part:

"Dr. Kelly himself gives us a clearer and better definition of 70 when he says it means merely twice 35. And that's a different matter altogether, because twice 35 means twice as good as once 35. That may not be the case with all men, but it is the case with Dr. Kelly, from whom life has not run away, but to whom it has given fresh endowments of professional wisdom and understanding as birthday gifts with the passage of the years."

Dr. and Mrs. A. G. Brown, Jr., Abroad.

Dr. Alexander G. Brown, Jr., editor of the MONTHLY, and Mrs. Brown, sailed on the *Leviathan*, February the 11th, for a six weeks' visit abroad. While away, they will visit Paris, Florence, Rome, Naples, London and Edinburgh.

Madrid Plans for Health Examinations in Schools.

The Civil Government of Madrid, Spain, has instructed the municipal health officers to examine all school children every three months and to keep records of the physical condition of each child. Reports on the sanitary condition of the school buildings are also required.

Dr. George C. Snead,

Recently of Andover, Va., is now located at Wilder, Va.

Dr. Thomas M. Winn,

Of the class of '22, Medical College of Virginia, and who practiced for a time at Millboro, Va., recently returned from taking postgraduate work at the New York Polyclinic, and has located at Richwood, West Virginia. He is associated with the staff of the McClung Hospital, in that place, and is devoting his work to diseases of the eye, ear, nose and throat.

The American Social Hygiene Association,

At its annual meeting in January, elected Dr. Edward L. Keyes, of New York City, president, and Dr. Donald R. Hooker, of Baltimore, Md., secretary. Dr. William H. Welch, of Baltimore, is honorary president.

Dr. Frank McCutchan,

Recently connected with the staff of the Gill Memorial Hospital, in Roanoke, Va., has moved to Salisbury, N. C., where he is associated with Dr. R. V. Brawley in the practice of oto-laryngology.

Dr. A. M. Showalter,

Christiansburg, Va., was elected grand junior warden of the Grand Lodge of Virginia, A. F. & A. M., at its 150th convention in Richmond, Va., the middle of February.

Married.

Dr. William H. Baughman, formerly of Richmond, Va., but now of Oakland, Calif., and Miss Dorothy Kent, of Mt. Vernon, N. Y., January 23, 1928. They are spending their honeymoon in Honolulu. Dr. Baughman is a graduate of the University of Virginia Department of Medicine in the class of '10.

Regulation of Child Labor in Shanghai.

Through the influence of the Joint Committee of Shanghai Women's Organizations, which was formed in 1921, a commission was appointed by the Shanghai Municipal Council to investigate child-labor conditions in the city and make recommendations for action. The commission published its report in 1924, and an unsuccessful effort was made to secure a by-law enabling the council to regulate the employment of children. The joint committee has now established a permanent organization including representatives of British, American, Chinese, Japanese and Portuguese women's clubs, and one of its aims is "to promote the welfare of women and children of all nationals in Shanghai."

Dr. R. D. Garcin,

Richmond, Va., was re-elected one of the directors of the Bank of Commerce and Trusts of this city, for 1928.

The Leslie Dana Medal.

The fourth award of the Leslie Dana Medal, presented annually through the Missouri Association for the Blind to the person selected from the nominations received by the National Society for the Prevention of Blindness, will

take place during the 1928 meeting of the American Academy of Ophthalmology and Otolarnygology, in St. Louis, Missouri.

Nominations will be received by the National Society for the Prevention of Blindness, together with detailed information prompting the nomination, until the 15th day of May, 1928. The medical profession and ophthalmological societies are invited to submit names of persons deemed worthy of this honor to the National Society, under the conditions set forth in the deed of gift, as follows:

a. Long meritorious service for the conservation of vision in the prevention and cure of diseases dangerous to eyesight.
b. Research and instruction in ophthalmology and allied subjects.
c. Social service for the control of eye diseases.
d. Special discoveries in the domain of general science or medicine of exceptional importance in conservation of vision.

The recipient of the first medal awarded (1925) was Dr. Edward Jackson, of Denver. The second annual award (1926) was to the late Miss Louisa Lee Schuyler, of New York City, and the third award (1927) was to Dr. Lucien Howe, until recently of Buffalo, now of Cambridge.

Budapest International Medical Congress.

The Seventh International Medical Congress for Industrial Accidents and Occupational Diseases is definitely announced to be held in Budapest, Hungary, September 2-8, 1928. National committees have been formed in the principal countries.

Since the first American announcement, Dr. Fred H. Albee, New York City, and Dr. Emery R. Hayhurst, Ohio State University, Columbus, both members of the Permanent International Committee, have been appointed Joint Chairmen of the National Committee for the United States, and have appointed Dr. Richard Kovacs, New York City, as Secretary.

The Travel Study Club of American Physicians, of which Dr. Albee is President and Dr. Kovacs, Secretary, has rearranged its summer trip for 1928 especially to focus upon the Budapest Congress. Those who have already indicated their intention of attending the Congress and others are invited to join the Travel Study Club either for the entire trip or at any point. The itinerary calls for sailing from New York on August 16th. Clinics on the continent will be visited before and after the Budapest Congress. Returning, the party will reach New York on October 5th.

Correspondence regarding the trip should be had with Dr. Richard Kovacs, 223 E. 68th St., New York City.

Dr. W. C. Rosser,

For some time of Rustburg, Va., has moved to Lynchburg, Va., and has located at 210 Yeardley Avenue, that city.

Preparing for May Day

May Day isn't very far off, and the American Child Health Association of New York City has already issued a little book—The Goal of May Day, A Year-round Community Child Health Program—which contains suggestions for promoting child health through the home, the school, the church, and community organizations.

Dr. A. Ludwell Hammer,

McGaheysville, Va., of the class of '05, University College of Medicine, Richmond, Va., is now much improved after an illness of several months. Dr. Hammer was confined to his bed for some time with phlebitis of the left leg.

Dr. Susan W. Field,

For several years resident physician at State Teachers' College in Farmville, Va., is on a leave of absence on account of her health and has been visiting at her former home in Lincoln, Nebraska.

Dr. Susan A. Price, recently of the staff of the Eastern State Hospital at Williamsburg, has been filling Dr. Fields place in Farmville since the opening of school last Fall.

Dr. Edwin R. Mickle,

Of the class of '23, Medical College of Virginia, and recently of Phoebus, Va., has moved to Williamsburg, Va., where he is an assistant physician at the Eastern State Hospital.

A Campaign Against Blindness.

The National Committee for the Prevention of Blindness is planning a general campaign against the major causes of blindness. It will continue its efforts to wipe out ophthalmia neonatorum, the most prolific single cause, for there are still 19 States and 2 Territories without adequate regulations concerning the use of a prophylactic in the eyes of the new-born. It proposes a nation-wide examination of the

eyes of pre-school children, a new technique having been demonstrated in 35 cities last year; a project for the conservation of the eyes of school children; research into the causes of and methods of eradicating trachoma; and co-operation with national industrial and public-health organizations in reduction of eye hazards in industrial occupations and from the social diseases.

Generous Gift to Children's Hospital in Cincinnati.

The president of the Board of Trustees of the Children's Hospital of Cincinnati, William C. Proctor, has given $2,500,000 to the institution, to be used for pediatric investigation and teaching. About $500,000 is to be used for building a research laboratory and for the development of an outpatient clinic.

State Colony for Epileptics and Feebleminded.

The eighteenth annual report of the Colony, of which Dr. John H. Bell is superintendent, stated that the general health of the population was good for the year ended June 30, 1927. There were no epidemics and the death rate was remarkably low. The large majority of patients enjoy outdoor privileges in good weather. At the beginning of the year covered by this report there were 767 patients in the institution buildings and 83 on furlough. At the end of that year, there were 798 patients with 67 on furlough, the total number on the register being 865. It is stated that the greatest congestion and demand for additional quarters at this time is felt in the male department and it is stated that an appropriation is necessary for the erection of a male dormitory.

Matriculate for Post-Graduate Course.

Among those who have matriculated for the Post-Graduate course to be given at Gill Memorial Hospital, Roanoke, Va., March 19-24, inclusive, are: Dr. L. W. Hovis, Charlotte, N. C.; Dr. J. R. Perkins, Winston-Salem, N. C.; Dr. A. T. Finch, Chase City, Va.; Dr. C. E. Crosby, Greenwood, S. C.; Drs. Simmons R. Lucas and Marion R. Mobley, Florence, S. C.; Dr. R. W. Petrie, Lenoir, N. C.; Dr. Martin Crook, Spartanburg, S. C.; Dr. C. H. McArthur, Rome, Ga.; Dr. James P. Edmonds, Middleboro, Ky.; Dr. A. T. Hawthorne, Winchester, Va.; Dr. A. J. Ellington, Burlington, N. C.; Dr. J. R. Vermillion, Princeton, W. Va.; Dr. E. Vermillion, Welch, W. Va.; Dr. G. E. Campbell, Johnson City, Tenn.; Dr. Karl S. Blackwell, Richmond, Va.; Dr. C. T. St. Clair, Bluefield, W. Va.; Dr. H. C. Wolfe, Greensboro, N. C.; Dr. G. B. Dudley, Martinsville, Va.; and Dr. N. Overby, Sandersville, Ga.

Dr. E. C. Levy

Former Health Officer and Director of Public Welfare of Richmond, Va., but for the past two years City Health Officer at Tampa, Fla., no longer has that position, as the new charter which went into effect in January, required the City Health Officer to be "a physician authorized to engage in the practice of medicine under the laws of the State of Florida." We understand that the Hillsborough County Medical Society protested against this clause which made Dr. Levy ineligible to office, as he had not taken the Medical Examining Board of the State of Florida. He was succeeded by Dr. C. W. Bartlett, a practising physician.

Dr. Levy advises us that he has made no definite plans as yet, but will probably return to Richmond for a time.

Dr. Ramon M. Suarez,

Of Santurce, P. R., of the class of '17, Medical College of Virginia, has been appointed to represent his alma mater at the twenty-fifth anniversary of the University of Porto Rico, to be held this month. Dr. Suarez has recently been elected president of the Porto Rico Medical Association and has also been appointed associate professor of medicine at the School of Tropical Medicine of the University of Porto Rico and Columbia University.

Campaign Against the "Common Cold".

A gift of $195,000 by the Chemical Foundation to the School of Hygiene and Public Health of Johns Hopkins University is to be devoted to an exhaustive study of "the origin, nature, and possible cure of the common cold." The school has already made some investigations of the causes of colds.

Dr. Akers Honored on Birthday.

When Dr. R. T. Akers, of Alum Ridge, Va., celebrated his sixty-ninth birthday recently, his friends in Floyd and adjoining counties took occasion to honor him with a birthday dinner and a sort of "love feast". He was the recipient of many good wishes and gifts and

his friends arranged an interesting program of music and speech making in adition to a birthday dinner.

Memorial to Dr. Howard Fletcher.

A tall clock with chimes has been presented to the Fauquier Hospital at Warrenton, Va., as a memorial to the late Dr. Howard Fletcher, of that place, and has been placed in the hall of the hospital. This was given by Dr. Fletcher's friends in the Medical Society of Northern Virginia, Maryland and the District of Columbia, of which Dr. Fletcher was a president. Dr. Fletcher was exceedingly interested in the founding of this hospital and died suddenly the day before its formal opening.

Recommendations with Regard to the Medical College of Virginia.

The survey report on higher education in Virginia recently submitted to the Governor includes these recommendations among others in specific relation to the Medical College of Virginia, Richmond: that funds be provided to increase salaries approximately twenty per cent, to make possible more ample extension service, to supply a new laboratory for chemistry, pathology, and bacteriology and a building for clinical dentistry, and to develop research mere generously. It also recommends that the college take over the State public health laboratory as now maintained by the State Board of Health and that the school of nursing be developed more generously on the side of pediatries and obstetrics to make possible more affiliations in these subjects with the smaller hospitals in the State. There are other recommendations of a more general character.

Deaths of Physicians.

The Journal of the A. M. A. states that during 1027 it published obituaries of 2,790 physicians of the United States, including ten who were temporarily absent from the country or resided in Alaska, Hawaii or Porto Rico. The average age of these physicians was 62 years. Ninety-one physicians lived to be 85 or more years of age and one lived to 102. The largest number of deaths for a five-year age group was by a slight margin for the period of 65-69 years, there being 389 in this group. The largest number of deaths among physicians occurred in March. There were one hundred and forty deaths of physicians reported as the result of accidents, sixty-six of these being due to automobile accidents.

The Newsboys' Trial Board of Boston.

In 1910 the school committee of Boston established the newsboys' trial board, a unique feature for controlling violations of the law concerning newsboys. This board consists of the supervisor of licensed minors, who acts as prosecuting attorney; one of the school attendance officers, who acts as presiding judge; and three newsboy judges, elected from the licensed newsboys attending the city public schools. Each newsboy judge usually speaks another language in addition to English and can act as interpreter at need. Boys found violating the law are required to report to this board with their parents. A first offender usually has the law explained to him and he and his father are warned. A repeated offender is likely to be referred to juvenile court.

How Many Children Go to the "Movies"?

Children formed over a fourth of the total paid admissions to a few motion-picture theaters in one city during 1926 which meant a weekly average attendance of 4,600 and a yearly total of 241,762. A recent estimate placed the proportion of children in the motion-picture audiences of New York at 8 per cent. This is considered a low figure for the country as a whole. Using it as a basis, of the total weekly attendance of 90,000,000 reported by a spokesman of the industry 7,200,000 are children.

Health of 2,000 Continuation-School Boys in New York.

Of 2,000 working boys, 15, 16, and 17 years of age attending the East Side Continuation-School, New York, only 225 were found to be without serious defects in an examination sponsored by the New York Tuberculosis and Health Association. About half the boys had diseased tonsils or decayed teeth, or both; over one-fourth were suffering from defective vision, in a few cases corrected by glasses; malnutrition, nasal obstructions and infections, and heart defects were found in considerable numbers; and there were 74 boys with lung defects or diseases, including 6 with active tuberculosis and 31 tuberculosis suspects.

Dr. D. Hunter Marrow,

Of Union Level, Va., has been spending the winter at Daytona Beach, Fla., as is his custom.

Dr. John Phipps,

Of Fries, Va., who was operated on recently for appendicitis at the Galax, Va., Hospital, was reported as doing well as we went to press.

For Sale—

The following equipment of the late Dr. E. H. Heaton: Large Fisher cabinet—latest type machine; Morse wave generator; deep therapy lamp; and galvanic battery outfit. All are in perfect condition, having been used only one year. Will sell for half price. Address Mrs. E. H. Heaton, Leesburg, Va. (*Adv.*)

Obituary

Dr. Israel Brown,

Norfolk, Va., prominent member of the Medical Society of Virginia, and of the American Legion, was found dead in bed on February the 11th, at Charlottesville, Va., to which place he had gone to attend a meeting of post commanders and adjutants of the American Legion, of which he was State Commander. Dr. Brown was born in Newberry, S. C., fifty-four years ago. Upon completion of his academic education, he took up the study of medicine and graduated from the Medical College of the State of South Carolina in 1894. Shortly thereafter, he located in Norfolk, and had since made his home there. Dr. Brown had an excellent war record; he served on the Mexican border and, in the World War, went overseas shortly after the United States entered the war. He held the rank of lieutenant-colonel in the Medical Reserve Corps at the time of his death. Dr. Brown was also active in politics and had served his community in the General Assembly of Virginia. He was an ex-president of the Norfolk County Medical Society, the Seaboard Medical Association of Virginia and North Carolina, and, at the time of his death, was a member of the Executive Council of the Medical Society of Virginia, a position which he had held for several years. Dr. Brown was unmarried, but is survived by a brother and three sisters. His funeral was held with full military honors, the last rites being conducted by the Masonic order of which he was a member. Hundreds of friends paid high tribute to him on this occasion.

Dr. Robert Carter Randolph,

Of Boyce, Va., died February the 20th, at his home near that place. His death was unexpected, although he had not been in good health since Christmas. Dr. Randolph was fifty-eight years of age and had graduated in medicine from the former University College of Medicine in Richmond, Va., in 1894. Following this, he served as an interne at St. Luke's Hospital, this city. His wife and a son survive him. Dr. Randolph was president of the Frederick-Clarke County Medical Society at the time of his death. He had been a member of the Medical Society of Virginia for a number of years.

Dr. Frank Waring Lewis,

Of Morattico, Va., died February the 14th, at the home of his son, Dr. F. W. Lewis, Jr., in Richmond, at which place he was visiting. Dr. Lewis was seventy-one years of age and a graduate in medicine from the University of Maryland in 1878. He was a member of the board of visitors of the University of Virginia and was for forty-one years county superintendent of schools in Lancaster County, Virginia. He was a Mason and was at one time a member of the Medical Society of Virginia. His wife and three children survive him.

Dr. Samuel Shugert Adams,

Washington, D. C., for thirty years chief of the department of medicine of Georgetown University School of Medicine, died in that city February the 12th, aged seventy-five years. Death was due to heart disease.

Dr. Eppa Hunton Heaton,

Leesburg, Va., died at his home in that place September 16, 1927, death being due to angina pectoris. He was sixty-one years of age and had lived most of his life in Loudoun County, Virginia. Upon completion of his academic education, he studied medicine at the College of Physicians and Surgeons of New York and later at the University of Maryland, from which he graduated in 1889. Following a stroke of paralysis about twelve years ago, Dr. Heaton gave up general practice and took a post-graduate course in laboratory and X-ray work. He had been in charge of this work at the Loudoun Hospital for the past five years. Dr. Heaton was a member of the Medical Society of Virginia. His wife and six children survive him.

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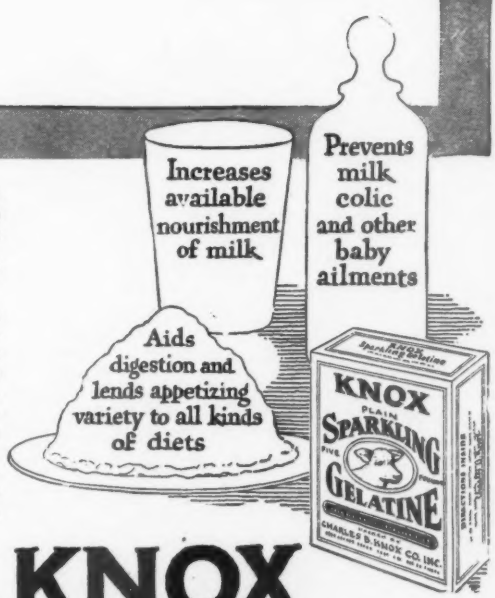
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